SR430/SR430L

marantz®

model SR430/SR430L

Stereophonic Receiver

MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, MARANTZ company has created the ultimate in stereo sound. Only **original MARANTZ parts** can insure that your MARANTZ product will continue to perform to the specifications for which it is famous.

Parts for your MARANTZ equipment are generally available to our National Marantz Subsidiary or Agent.

ORDERING PARTS:

Parts can be ordered either by mail or by telex. In both cases, MARANTZ part number has to be specified. If you order by mail, fulfil MARANTZ order forms.

MARANTZ S.A.
EUROPEAN PARTS DEPARTMENT
2, Avenue Léopold III
B-7120 PERONNES-lez-BINCHE
BELGIUM
TWX: 57589 SEPLT B

SUPERSCOPE NATIONAL PARTS DEPARTMENT
20525 Nordhoff Street
Chatsworth, California 91311
Phone: 1-800-423-5108
Phone: 1-213-998-9333

The following information must be supplied to eliminate delays in processing your order:

1. Complete address
2. Complete part numbers and quantities required
3. Description of parts
4. Model number for which part is required
5. Way of shipment
6. Signature: any order form or telex must be signed otherwise such part order will be considered as null and void.

PARTS ORDERING:

Parts may be ordered from the following addresses:

EUROPE

MARANTZ S.A.
European Parts Department
2, Avenue Léopold III
B-7120 Péronnes-lez-Binche
Belgium
Telex: 57589

MARANTZ GERMANY GMBH
Max Planckstrasse, 22
6072 DREIEICH 1
West Germany
Telex: 4185316

MARANTZ FRANCE
4 Rue Bernard Palissy
92600 Asnières
France
Telex: 611651

MARANTZ DENMARK
Bregnerødvej 132b
3460 Birkerød
Denmark
Telex: 39137

MARANTZ GMBH AUSTRIA
Wiedner Hauptstrasse 98
1050 Wien
Austria
Telex: 113583

MARANTZ S.A.
326 Avenue Louise Bte 32
1050 Brussels
Belgium
Telex: 26602

MARANTZ NORSKE A.S.
Refstadalleen 13
Oslo 5
Norway
Telex: 19659

MARANTZ AUDIO U.K. LTD.
Unit 15/16
Saxon Way Industrial Estate
Moor Lane
Harmondsworth UB7 OLW
Great Britain
Telex: 935196

MARANTZ BELGIUM
45 Rue Auguste Van Zande
1080 Brussels
Belgium

MARANTZ SVENSKA A.B.
Svartviksvangen 56
Traneberg - Box 12016
16112 Bromma
Sweden
Telex: 13449

AUSTRALIA

MARANTZ AUSTRALIA PTY., LTD.
32 Cross Street
Brookvale, N.S.W. 2100
Australia
Telex: 24121

U.S.A.

MARANTZ COMPANY, INC.
National Service Dept.
P.O. Box 577
Chatsworth, CA 91311
U.S.A.
Telex: 4720284

CANADA

SUPERSCOPE CANADA, LTD.
3710 Nashua Drive
Mississauga
Ontario, Canada L4V1M5

JAPAN

MARANTZ JAPAN, INC.
35-1, 7-chome, Sagamiono
Sagamihara-shi, Kanagawa
Japan
Telex: 22878

All of the above locations are fully equipped to take care of your total service needs. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your country, please, contact the nearest facility for the necessary assistance.

> In case of difficulties, do not hesitate to contact the Technical Department at abovementioned address.

NOTE—FOR U.S.A. ONLY

Parts for your MARANTZ stereo are generally available within 72 hours throughout the nation via a toll-free line to our National Parts Depot in California. The sales professionals who take your call immediately refer to their own desk top computer terminal and can quickly determine the availability and price information you require. If, for some reason, your order should exceed our available stock, we usually can instantly provide an alternate replacement part or current delivery information. When the order is placed and confirmed, the computer simultaneously generates "hard copy" orders at the distribution center. As hard copies come directly from the computer to the national parts depot, your requested stock is assembled and prepared for shipment and placed on the first available carrier for delivery to you.

Phone orders will eliminate mail delays, and we encourage the use of this method. If you order by mail, use MARANTZ parts order forms which are available from SUPERSCOPE NATIONAL PARTS DEPARTMENT.

marantz®

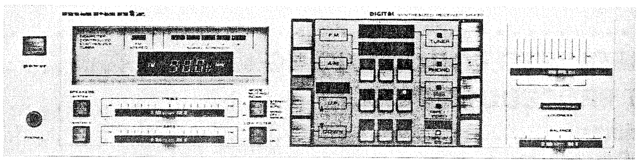
TABLE OF CONTENTS

Section Page

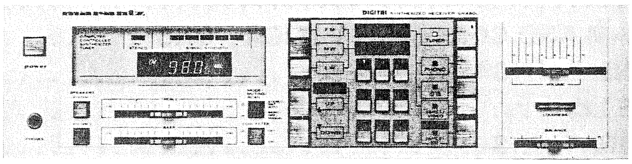
INTRODUCTION 1

1. SHOCK FIRE HAZARD SERVICE TEST 1
2. P.W. BOARDS 1
3. TEST EQUIPMENT REQUIRED FOR SERVICING 2
4. TUNER ALIGNMENT PROCEDURES 2
   - 4.1 FM Alignment Procedures 2
   - 4.2 Multiplex Alignment Procedures 3
   - 4.3 AM Alignment Procedures 3
5. ALIGNMENT POINT 4
6. VOLTAGE CONVERSION 5
7. CIRCUIT DESCRIPTION 5
8. BLOCK DIAGRAM 19
9. SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS 20
10. EXPLODED VIEW AND PARTS LIST 30
11. ELECTRICAL PARTS LIST 35
12. TECHNICAL SPECIFICATIONS 42
13. SCHEMATIC DIAGRAM 43

MODEL SR 430/SR 430L STEREOPHONIC RECEIVER



SR430



SR430L

INTRODUCTION

This service manual was prepared for use by Authorized Warranty Stations and contains service information for Marantz Model SR430 and SR430L Stereophonic Receiver.

Servicing information and voltage data included in this manual are intended for use by the knowledgeable and experienced technician only. All instructions should be read carefully. No attempt should be made to proceed without a good understanding of the operation of the **Receiver.**

The parts list furnishes information by which replacement parts may be ordered from the Marantz Company. A simple description is included for parts which can usually be obtained through local suppliers.

1. SHOCK FIRE HAZARD SERVICE TEST

CAUTION: After servicing this appliance and prior to returning to customer, measure the resistance between either primary AC cord connector pins (with unit NOT connected to AC mains and its Power switch ON), and the face or front Panel of product and controls and chassis bottom.

Any resistance measurement less than 1 Megohms should cause unit to be repaired or corrected before AC power is applied, and verified before ruturn to user/customer.

REF UL Stnadard No. 1270. Para. 66. 3. D (Mandatory Test after servicing Electrical Appliances, effective 7-1-83).

2. P.W. BOARDS

As can be seen from the circuit diagram the chassis of Model SR430 and SR430L consists of the following units. Each unit mounted on a printed circuit board is described within the square enclosed by a bold dotted line on the circuit diagram.

1.	Tuner/Main Amp/Power Supply	P100
2.	Phono Amp	P400
3.	Display Driver	P501
4.	Display	P502
5.	Tone Volume	PE01
6.	Tone Circuit	PE02
7.	Tone Jumper	PE03
8.	Speaker Switch	PN00
9.	Control Switch	PT00
10.	Power Switch	PU00
11.	Speaker Terminal	PW00
12.	Headphone	PW50
13.	Scan Step	PC00 (U.N)

3. TEST EQUIPMENT REQUIRED FOR SERVICING

This table lists the test equipment required for servicing the Model SR430/SR430L Stereophonic Receiver.

Item	Use
AM Signal Generator	Signal source for AM alignment
Test Loop	Use with AM Signal Generator
FM Signal Generator MPX Signal Generator	Signal source for FM alignment Stereo separation alignment and trouble shooting
Distortion Analyzer Audio Oscillator AC VTVM	Distortion measurements Sinewave and squarewave signal source Voltage measurements (AC)
Oscilloscope	Waveform analysis and trouble shooting
Frequency Counter	MPX Oscillator adjustment (VCO)
Circuit Tester	Truble shooting
DC VTVM	Voltage measurements (DC)
AC Wattmeter	Monitors primary power to tuner
Line Voltmeter	Monitors potential of primary power to tuner
Variable Autotransformer	Adjusts level of primary power to tuner

4. TUNER ALIGNMENT PROCEDURES

A dummy resistor of 47 kohms must be connected across the tuner output terminals before alignment.

4.1 FM Alignment Procedures (Selector switch in the "FM" position, Mode switch in the MONO Position.)

1. FM RF Alignment

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital Readout Frequency	Adjust:
1	RF generator to FM antenna terminals through matching network (300 ohms, balanced) Maintain RF level below limit.	98.0 MHz	VTVM to L or R channel output (JV03)	98.0 MHz	FRONT END IFT L8 for maximum output and distortion.
2	RF generator 1 mV output to FM antenna terminals through matching network. (300 ohms, balanced)	98.0 MHz	"O" center meter or DC current meter in $100\mu A$ range between (J108 and J109)	98.0 MHz	L101 (A) core so that the meter indicates its center or may read "O".
3	RF generator 1mV output to FM antenna terminals through matching network. (300 ohms, balanced)	98.0 MHz	Distortion meter to L or R channel output (JV03)	98.0 MHz	L101 (B) core for minimum distortion.
4	RF generator to $12.5\ \mu V$	98.0 MHz	Distortion meter to L or R Channel Output **(JV03)** (FM Muting Switch ON Position)	98.0 MHz	Turn R110 until output is defeated, then re-adjust R110 to the point where output is obtained again.

4.2 Multiplex Alignment Procedures (Selector switch in the "FM" position/Mode switch in the STEREO position)

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital Redaout Frequency	Adjust:
1	RF generator to FM antenna Terminals through matching network. with 1 mV FM stereo signal	NO. Modulation	Frequency counter to (J106)	98.0 MHz	R302 so that frequency may precisely read 19 kHz.
2	RF generator to FM antenna terminals through matching network (300 ohms, balanced) with 1 mV FM stereo signal Modulation level. DIN 40 kHz +8% pilot IHF 67.5 kHz +9% pilot	98.0 MHz	VTVM to R or L channel output (JV03)	98.0 MHz	Front End IFT (L8) for minimum distoriton.
3	RF generator to FM antenna terminals through matching network (300 ohms, balanced) with 1 mV FM stereo signal Modulation level. DIN 40 kHz +8% pilot IHF 67.5 kHz +9% pilot	Stereo left (1,000 Hz)	VTVM to right channel output (JV03)	98.0 MHz	R306 for same separation in both channels.
4		Stereo right (1,000 Hz)	VTVM to left channel output (JV03)		
5	Repeat steps 3 and 4				

4.3 AM Alignment Procedures

1. AM (MW) Local Oscillator Alignment

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital Readout Frequency	Adjust:
1			DC voltmeter in 3V range to (J110)	522 kHz	LA03 for 1.0V.

2. AM (MW) RF Alignment

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital Readout Frequency	Adjust:
1	Apply the signal to the AM loop antenna from the RF generator using the test loop. As per the figure 1.	1,404 kHz	VTVM to L or R channel output (JV03)	1,494 kHz	CA01 for maximum output.
2		603 kHz		603 kHz	LA01 for maximum output.
3	Repeat steps 1 and 2 as necessary to obtain maximum sensitivity.				

3. AM IF Alignment

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital Readout Frequency	Adjust:
1	Sweep generator to (J101 AM Ant)	450 kHz	Oscilloscope to (JA15)	Quiet point on band	LA05 for maximum and symmetric response.

4. LW Local Oscillator Alignment (Selector Switch in the "LW" position) SR430L

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital Readout Frequency	Adjust:
1			DC voltmeter in 3V range to (J110)	153 kHz	LA04 for 1.5V.

5. LW RF Alignment (Selector switch in the "LW" position) SR430L

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital REadout Frequency	Adjust:
1	Apply the signal to the AM loop antenna from the RF generator using the test loop. As per the Figure 1.	320 kHz	VTVM to L or R channel output (JV03)	320 kHz	CA01 for maximum output.
2		170 kHz		170 kHz	LA02 for maximum output.
3	Repeat steps 1 and 2 as necessary to obtain maximum sensitivity.				

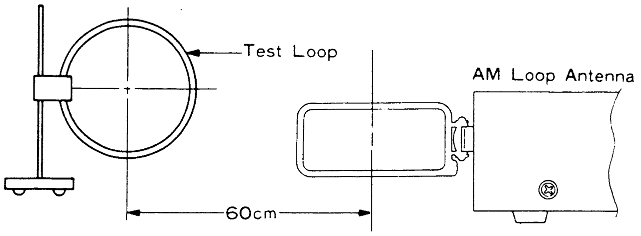
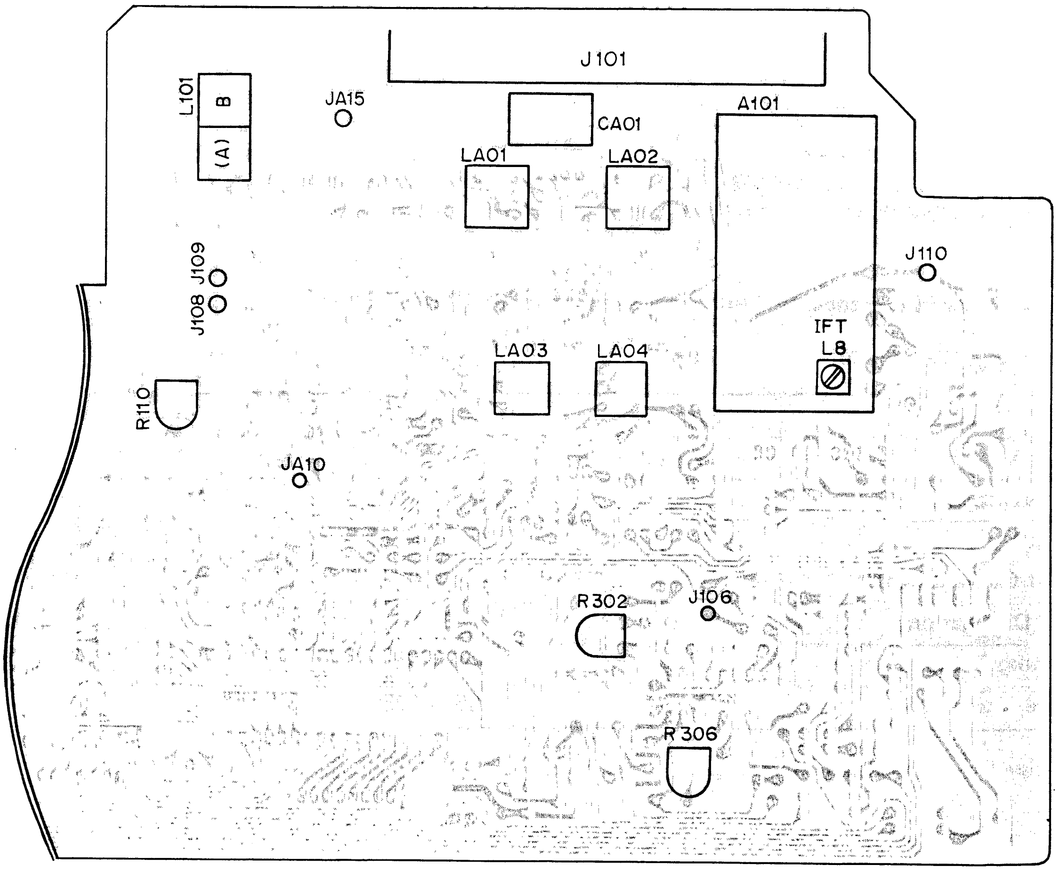

Test Loop
AM Loop Antenna
60cm

Figure 1. Application of AM Signal

5. ALIGNMENT POINTS (P100) TUNER P.W. BOARD

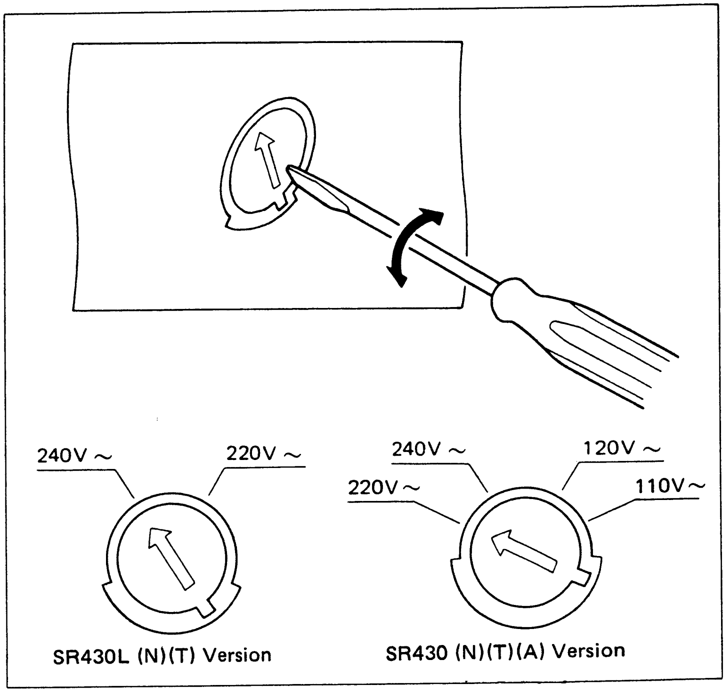

J101
L101
B
(A)
JA15
CA01
A101
LA01
LA02
J109
J108
J110
IFT
L8
LA03
LA04
R110
JA10
R302
J106
R306

6. VOLTAGE CONVERSION

To convert the unit to a different power source voltage, change the position as illustrated in the drawing below.

CAUTION
DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE. DO NOT DISASSEMBLE THE VOLTAGE SELECTOR ABSOLUTELY.

Voltage Conversion Chart


240V ~
220V ~
240V ~
120V ~
220V ~
110V ~

SR430L (N)(T) Version

SR430 (N)(T)(A) Version

NOTE ON SAFETY:
Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symblo ⚠ . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

7. CIRCUIT DESCRIPTION

The Model SR430/SR430L is an LW/MW/FM digital frequency-synthesized tuner using a PLL frequency synthesizer designed for use in LW/MW/FM tuners in conjunction with a CMOS LSI controller.

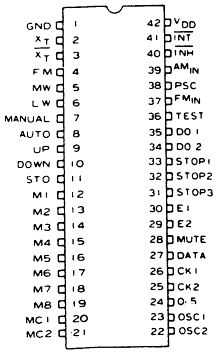
7.1 LW/MW/FM Tuner PLL Frequency Synthesizer and Controller TC9147P (Q502)

- **Maximum Ratings (Ta = 25°C)**

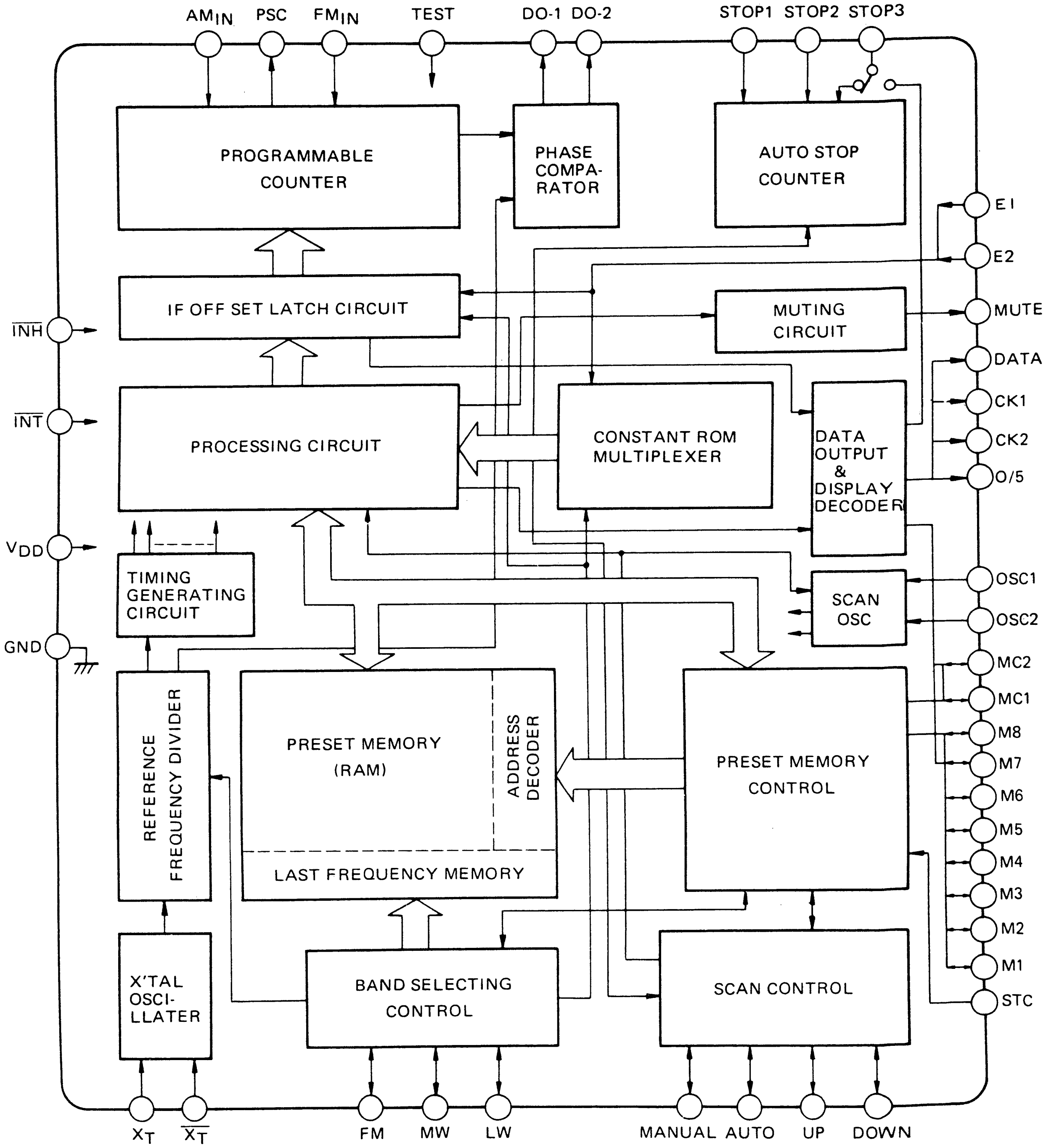
Characteristic	Symbol	Ratings	Unit
Supply Voltage	V_{DD}	0 ~ 6	V
Input Voltage	V_{IN}	−0.3 ~ V_{DD} +0.3	V
Output Voltage	V_{OUT}	−0.3 ~ V_{DD} +0.3	V
Output Current (Note)	I_{OUT}	30	mA
Power Dissipation	P_D	800	mW
Operating Temperature	T_{opr}	−30 ~ 75	°C
Storage Temperature	T_{stg}	−55 ~ 125	°C

(Note) Bipolar transistor output current.

Pin Connection


GND 1
XT 2
$\overline{XT}$ 3
FM 4
MW 5
LW 6
MANUAL 7
AUTO 8
UP 9
DOWN 10
STO 11
M1 12
M2 13
M3 14
M4 15
M5 16
M6 17
M7 18
M8 19
MC1 20
MC2 21
42 VDD
41 $\overline{INT}$
40 $\overline{INH}$
39 AMIN
38 PSC
37 FMIN
36 TEST
35 DO 1
34 DO 2
33 STOP1
32 STOP2
31 STOP3
30 E1
29 E2
28 MUTE
27 DATA
26 CK1
25 CK2
24 0.5
23 OSC1
22 OSC2

- **Block Diagram**


AMIN
PSC
FMIN
TEST
DO-1
DO-2
STOP1
STOP2
STOP3
PROGRAMMABLE COUNTER
PHASE COMPA-RATOR
AUTO STOP COUNTER
E1
E2
IF OFF SET LATCH CIRCUIT
MUTING CIRCUIT
MUTE
DATA
CK1
CK2
O/5
INH
INT
PROCESSING CIRCUIT
CONSTANT ROM MULTIPLEXER
DATA OUTPUT & DISPLAY DECODER
VDD
TIMING GENERATING CIRCUIT
GND
SCAN OSC
OSC1
OSC2
MC2
MC1
M8
M7
M6
M5
M4
M3
M2
M1
STC
REFERENCE FREQUENCY DIVIDER
PRESET MEMORY (RAM)
ADDRESS DECODER
LAST FREQUENCY MEMORY
PRESET MEMORY CONTROL
X'TAL OSCI-LLATER
BAND SELECTING CONTROL
SCAN CONTROL
XT
XT
FM
MW
LW
MANUAL
AUTO
UP
DOWN

- **Electrical Characteristics (Unless otherwise specified, Ta = 25°C, V_{DD} = 5.0V)**

Characteristic			Symbol	Test Circuit	Test Condition	Min.	Typ.	Max.	Unit
Supply Voltage			V_{DD}		– *	4.5	5.0	5.5	V
Supply Current			I_{DD}		FM Band, f_{IN}=4MHz, No-Load	–	4.0	7.0	mA
Memory Backup Voltage			V_{DD} B		$\overline{INH}$=0V *	2.0	~	5.5	V
Inhibit Supply Current			I_{DD} I_1		V_{DD}=5.0V, $\overline{INH}$=0V	–	–	15	μA
			I_{DD} I_2		V_{DD}=2.0V, $\overline{INH}$=0V	–	–	5	
X'tal Oscillation Frequency			f_X'tal		– *	–	7.2	–	MHz
FM_{IN}	Operating Frequency		f_{IN} (FM)		V_{IN} = 0.5 Vp-p, AC coupled *	2.0	~	4.0	MHz
	Input Amplitude		V_{IN} (FM)		f_{IN} =2.0 ~ 4.0MHz, AC coupled *	0.5	~	V_{DD}-0.5	Vp-p
AM_{IN}	Operating Frequency		f_{IN} (AM)		V_{IN} =0.5Vp-p, AC coupled *	0.5	~	2.2	MHz
	Input Amplitude		V_{IN} (AM)		f_{IN} =0.5 ~ 2.2 MHz, AC coupled *	0.5	~	V_{DD}-0.5	Vp-p
STOP3 (IF_{IN})	Operating Frequency		f_{IN} (IF)		V_{IN} =0.5 Vp-p, AC coupled *	400	~	500	kHz
	Input Amplitude		V_{IN} (IF)		f_{IN} = 400 ~ 500 kHz, AC coupled *	0.5	~	V_{DD}-0.5	Vp-p
PSC	FM_{IN} Propagation Delay Time		t_{pd}		C_L =15pF, V_{IN} =0.5Vp-p	–	–	200	nS
	Max. Load Capacity		C_L		– *	–	–	15	pF
$\overline{INH}$ $\overline{INT}$	Input Voltage	"H" Level	V_{IH1}		–	4.2	~	V_{DD}	V
		"L" Level	V_{IL1}		–	0	~	3.0	
Other All Input I/O Terminals	Input Voltage	"H" Level	V_{IH2}		–	3.5	~	V_{DD}	V
		"L" Level	V_{IL2}		–	0	~	1.5	
UP, DOWN, TEST Input Pull-Down Resistance			R_{IN}		–	15	30	60	kΩ
FM_{IN}, AM_{IN}, STOP3 Feedback Resistance			R_f		–	200	400	800	kΩ
F1, 2, STOP1, 2, $\overline{INH}$ $\overline{INT}$ Input Leak Current			I_L		–	–	–	1.0	μA

FM, MW, LW, MANUAL, AUTO, STO (TC9147P: M1 ~ M8)

Output Current	"H" Level	I_{OH}		V_{OH} = 4.0V	15	20	–	mA
	"L" Level	I_{OL}		V_{OL} =5.0V	70	140	280	μA

OSC, MUTE (TC9147P: DATA, CK1, 2, O/5)

Output Current	"H" Level	I_{OH}		V_{OH} = 4.0V	0.6	1.0	–	mA
	"L" Level	I_{OL}		V_{OL} = 1.0V	0.6	1.0	–	mA

DO-1, DO-2

Output Current	"H" Level	I_{OH}		V_{OH} = 4.0V	0.6	1.0	–	mA
	"L" Level	I_{OL}		V_{OL} = 1.0V	0.6	1.0	–	
Try state Leak Current		I_{TL}		–	–	–	0.1	μA

MC1, MC2

Output Current	"H" Level	I_{OH}		V_{OH} = 4.0V	0.6	1.0	–	mA
	"L" Level	I_{OL}		V_{OL} = 5.0V	70	140	280	μA

Note: Parameters with * mark are guaranteed at all conditions of V_{DD} = 4.5 ~ 5.5V, Ta=30 ~ 75°C.

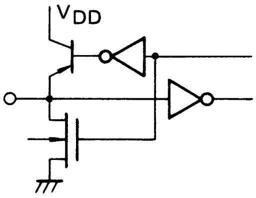
- **Functional Explanation of Terminals**

Pin No.	Symbol	Terminal Name	Function	Remarks
2	X_T	Crystal Oscillator terminal	Connect a 7.2 MHz crystal for reference frequency.	With a built in feedback resistor.
3	$\overline{X_T}$			
4	FM	FM band designating input	Mutual reset type for selecting FM/MW/LW bands.	A
5	MW	MW band designating input		
6	LW	LW band designating input		
7	MANUAL	Manual tuning mode designating input	Mutual reset type for selecting manual and auto search operating modes at time of UP/DOWN tuning.	A
8	AUTO	Auto search tuning mode designating input		
9	UP	Up operating key input	For UP/DOWN tuning with the push key connected.	B
10	DOWN	DOWN operating key input		
11	STO	Memory store command input	The preset memory is set to write state by this input.	A
12 ~ 19	M1 ~ M8	Preset memory channel designating input	In combination with MC1 and MC2 inputs, controls write/read of the internal 16 channel preset memory.	A
20	MC1	Memory control input	Used for setting the 16 channel preset memory either to FM/AM (MW+LW) 8 channel fixed system or FM+MW+LW 3 bands 16 channel random system.	C
21	MC2			
22	OSC2	AM oscillator terminal	C.R terminal for oscillator that decides SCAN speed at time of AM search.	–
23	OSC1	FM oscillator terminal	C.R terminal for oscillator that decides SCAN speed at time of FM search.	–
24	O/5	FM 50 kHz output for Europe	50 kHz step output in FM band in European region. Become "H" level at 50 kHz.	D
25	CK2	Receiving frequency data serial outputs	Transmits serial data and timing clock to be sent to Receiving Frequency Digital Display Driver TD6301AP. CK1 output also serves for pee sound transmission.	D
26	CK1			
27	DATA			
28	MUTE	Muting signal output	This terminal is placed at "H" level at time of muting output.	D
29	E2	Region Designating output	For designating Japan, U.S.A. and Europe.	E
30	E1			
31	STOP3	AM-IF signal input	Stops auto search by counting IF450 kHz signal at time of AM.	F
32	STOP2	Auto search stop signal input	When a "H" level signal is input under the state where a "H" level signal is being given to STOP1 Input, stops Auto search.	E
33	STOP1	SCAN speed slow input	When a "H" level signal is input, reduce auto search scan speed to 1/2.	E
34	DO-2	Phase Comparator output	2 try state buffers are transmitted parallelly from one phase comparator.	G
35	DO-1			
36	TEST	Test Terminal	When a "H" level signal is input, this terminal is placed at test mode.	B
37	FM_{IN}	FM Programmable counter input	Output from prescaler TD6104P is connected.	F
38	PSC	Prescaler control output	Controls selection of 1/30 and 1/32 division of prescaler TD6104P.	D

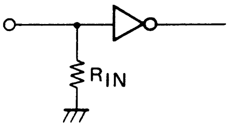
Pin No.	Symbol	Terminal Name	Function	Remarks
39	AM_{IN}	AM programmable counter input	AM local oscillation signal is applied.	F
40	$\overline{INH}$	Inhibit input	Normal operation at "H" level and inhibit status at "L" level.	E
41	$\overline{INT}$	Initialize input	Normal operation at "H" level, and internal state is initialized at "L" level.	E
42	V_{DD}	Power terminals	Apply 5 ± 0.5V. Backup is possible up to 2V.	–
1	GND			

- **Input/Output Equivalent Circuit**

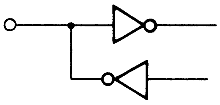
A. Bipolar Transistor LED Driver Built-in I/O.



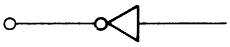
B. C-MOS Input with Pull-Down Resistor



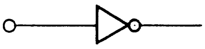
C. C-MOS I/O



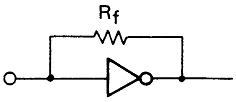
D. C-MOS Output



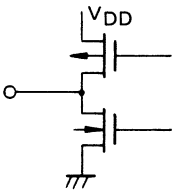
E. C-MOS Input (without Pull-up. Pull-Down Resistor)



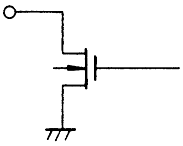
F. With Built-in Input Amplifier



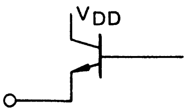
G. Try-state Output



H. Nch MOS LED Driver Output



I. Bipolar Transistor LED Driver Output



7.2 OUTLINE OF FUNCTIONS

- **Receiving Bands**

1) FM/MW/LW bands can be received in European region and FM/AM bands in Japan and U.S.A.
2) AM band for U.S.A. is able to receive up to 1710 kHz, and 9 kHz separation is also available.

Destination	Band Name	Range of Receiving Frequency	IF	Frequency Stop	Reference Frequency	Remarks
Europe	FM	37.50 ~ 108.00 MHz	+10.7 MHz	50 kHz	25 kHz	FM Europe 50 kHz separation
	MW	522 ~ 1611 MHz	+450 kHz	9 kHz	9 kHz	MW 9 kHz separation
	LW	153 ~ 360 kHz	+450 kHz	1 kHz	1 kHz	1 kHz separation
U.S.A.	FM	87.5 ~ 108.0 MHz	+10.7 MHz	100 kHz	25 kHz	FM U.S.A. band
	AM-1	520 ~ 1710 kHz	+450 kHz	10 kHz	10 kHz	MW U.S.A. 10 kHz separation
	AM-2	522 ~ 1710 kHz	+450 kHz	9 kHz	9 kHz	MW U.S.A. 9 kHz separation
Japan	FM	76.0 ~ 90.0 MHz	−10.7 MHz	100 kHz	25 kHz	FM JAPAN band
	AM	522 ~ 1611 kHz	+450 kHz	9 kHz	9 kHz	MW 9 kHz separation

7.3 EXPLANATION OF OPERATION

- **PLL Unit**

1. Reference Frequency and Crystal Oscillator

Oscillation frequency from the crystal oscillator is divided to generate reference frequency of 25 kHz at time of FM, 9 or 10 kHz at MW and 1 kHz at LW.

- Crystal oscillation frequency is 7.2 MHz.
- The crystal oscillator has a built-in self-bias amplifier and can be composed easily only by connecting a crystal and a capacitor. Further, oscillation is stopped under the inhibit state.

Mode	Reference Frequency	Remarks
FM	25 kHz	at FM band
MW9	9 kHz	at MW 9 kHz separation
MW10	10 kHz	at MW 10 kHz separation
LW	1 kHz	at LW band

2. Programmable Counter

The programmable counters for FM and AM (MW/LW) are in different circuit configuration.

1) FM Programmable Counter

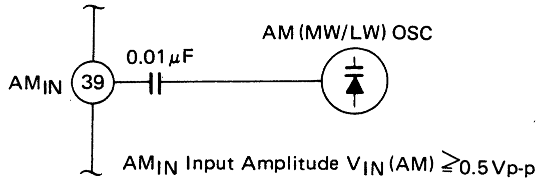
The FM programmable counter is of swallow count type in combination with TD6104P. As a result, reference frequency 25 kHz is obtained and performance is improved.

In this case, the transmission delay time of PSC output for controlling TD6104P is limited. PSC transmission delay time $td < 250$ ns.

2) AM Programmable Counter

The AM (MW/LW) programmable counter is of direct division type.

The signal transmitted from AM channel can be directly input to AM_{IN} terminal.

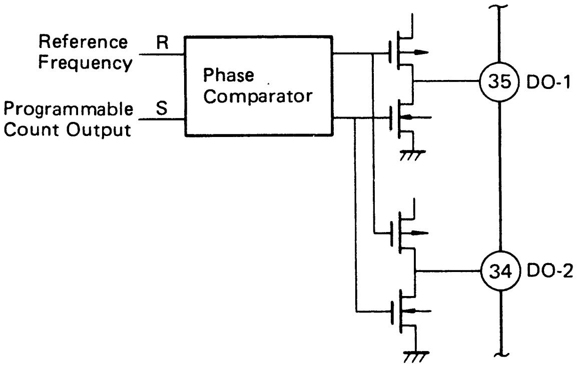

AM (MW/LW) OSC
0.01μF
AM$_{IN}$
39
AM$_{IN}$ Input Amplitude V$_{IN}$ (AM) ≧0.5Vp-p

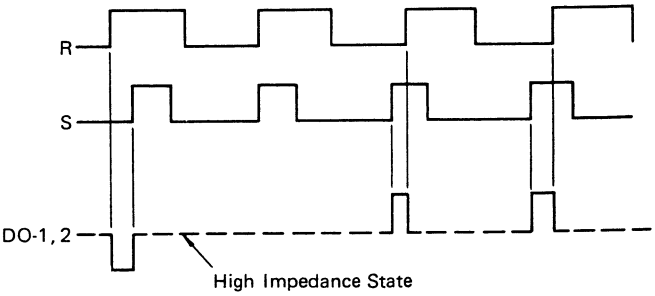
- As both FM$_{IN}$ and AM$_{IN}$ have a built-in input amplifier, a signal shall be applied with a capaciter connected.
- Under the inhibit state and at AM (MW/LW), PSC output is fixed at "L" level.
- IF offset has been provided in advance for frequency division by the programmable counter.

3. Phase Comparator

The phase comparator is a unit that compares phases of reference frequency and programmable counter output and controls V_{CO} through the low pass filter so that thus two signal frequencies and phases agree each other.

- Two tri-state buffers DO-1 and DO-2 are transmitted parallely from one phase comparator. Because of this, two sets of low-pass filter can be used without necessity for switching them.
- Under the inhibit state, both DO-1 and DO-2 outputs are kept at "L" level.


Reference Frequency
R
Programmable Count Output
S
Phase Comparator
35
DO-1
34
DO-2


R
S
DO-1, 2
High Impedance State

DO Output Timing Chart

- **Control Unit**

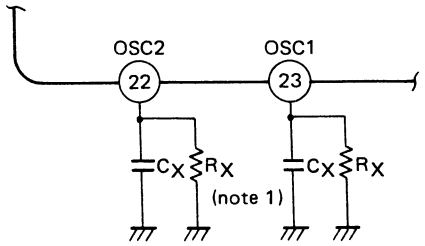
1. Determination of OSC1 and OSC2 Oscillation Frequency

OSC1 and OSC2 are C and R connecting terminals of a single terminal type oscillator. Scan speed at time of manual fast forward and auto search is decided by this frequency.

OSC1 is for FM and OSC2 is for AM and oscillation frequency can be set independently. Further, OSC1 oscillation frequency also seves for deciding manual fast forward pushing time, muting signal transmission time and store state automatic releasing time.

Both OSC1 and OSC2 stop oscillation unless it is required.

Oscillation Frequency $F_{OSC} = \frac{1}{0.7\, C_X R_X}$ (Hz) (Note 2)


OSC2
OSC1
22
23
Cx
Rx
(note 1)
Cx
Rx

(Note 1) R_X = 10k ~ 100kΩ

Scan Speed (Fast FWD. Auto Search)	At FM	f_s (FM) = 1/2 f_{OSC1} (step/sec)	(One Example) When f_{OSC} = 20 Hz	10 (step/sec)
	At AM (MW/LW)	f_s (AM) = 1/2 f_{OSC2} (step/sec)		10 (step/sec)
Manual Fast FWD Push Time		T_{SCAN} = 14/f_{OSC1} (sec)		0.7 (sec)
Store State Auto Release Time		T_{STO} = 224/f_{OSC1} (sec)		11 (sec)
Muting Signal Output Time	Short	T_{MUTE} (S) = 7/f_{OSC1} (sec)		0.35 (sec)
	Long	T_{MUTE} (L) = 15/f_{OSC1} (sec)		0.75 (sec)

(Note) f_{OSC1}: OSC1 Oscillation Frequency, f_{OSC2}: OSC2 Oscillation Frequency

2. Designation of Destination by Japan, U.S.A. and Europe

Regional designation by Japan, U.S.A. and Europe is made by E1 and E2 terminals.

E1	E2	Destination	
0	0	Japan	
1	0	Europe	
0	1	U.S.A.	MW 9 kHz separation
1	1		MW 10 kHz separation

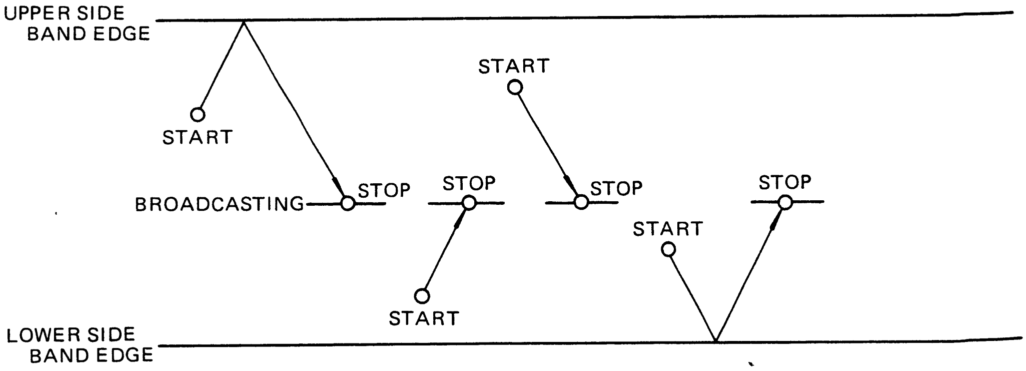
- For U.S.A. region designation, AM (MW) band 9 kHz/10 kHz separation can be selected.

(a) Method of auto stop signal input during normal auto search.
Input the auto stop signal to both STOP1 and STOP2 terminal, or with STOP2 terminal fixed at "H" level, apply the auto stop signal to STOP1 terminal.

(b) When ARI or Stereo Station only is searched.
Apply the normal auto stop signal to STOP1 terminal. Apply ARI or Stereo Station indentification signal to STOP2 terminal ("H" level shows ARI of Stereo Station).

(c) When Auto Stops Signal is received (when there is a broadcasting station), Scan is stopped.

- The auto search tuning scan system is in triangular waveform shape.
- When the DOWN key is pushed during the scanning in the up direction, the scanning is changed in the down direction. Similarly, when the UP key is pushed during the scanning in the down direction, the scanning is reversed in the up direction.



- The auto search scan speed is same as the fast forward scan speed f_s (FM) at FM, f_s (AM) at AM (MW/LW).
  The auto search tuning is released when the following operation is mode:
  When the operating mode is changed to the manual scan mode.
  When a receiving band is changed.
  When the preset memory is read.
  When the status is changed to the inhibit state.
- When the UP or DOWN key is kept pushed during the auto search tuning, no auto stop signal is accepted. In addition, the band edge is reached, the auto search tuning is stopped.

3. Auto Stop

1) STOP1, STOP2 Terminals

- When a "H" level signal is applied to STOP1 input, auto search scan speed is reduced to 1/2 (Slow mode).
- When a "H" level signal is applied to STOP2 terminal under the slow mode (STOP1 = at "H" level), the auto search tuning is stopped.
  Through the above operations, it is possible to stop the auto search after searching ARI or Stereo station only.

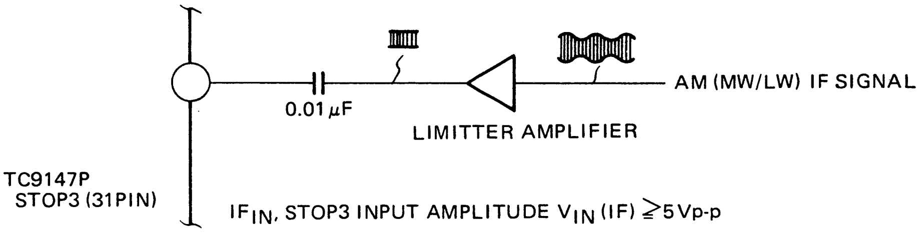
2) STOP3 Terminal

This terminal is the input of IF signal (=450 kHz) at time of AM (MW/LW). When this input frequency enters the specified range against 450 kHz, auto search tuning stops.

- As the input amplifier has been built in, apply IF signal with the capacitor connected.
- IF_{IN}, STOP3 input is not accepted at time of FM.
- Range of Auto Tuning stopping.

MW Band	450 kHz ± about 3 kHz
LW Band	450 kHz ± about 600 Hz

- Since IF signal has been amplitude modulated, it is adequate to apply it to IF_{IN}, STOP3 terminal through the limitter amplifier.



4. Memory Function

This is the function for tuning a desired channel by one-touch by constantly storing optional frequency data.

The terminals concerned with the memory are STO, M1 ~ M8, MC1, and MC2, a table of 11 terminals. Inputs are all "H" level active.

- STO and M1 ~ M8 terminal are of I/O type with a built-in bipolar transistor status display driver.
- MC1 and MC2 terminals control the built-in 16 channel preset memories as shown in the following table.

MC1	MC2	Allocation of 16 channel preset memories	Memory type
1	0	Memory addresses for 1 ~ 8 channels are assigned by M1 ~ M8 terminals.	16 channel random memory system.
0	1	Memory addresses for 9 ~ 16 channels are assigned by M1 ~ M8 terminals.	
1	1	No input is accepted. Memory allocation holds the previous status.	
0	0	Automatically allocated to 8 FM channels and 8 AM channels. Further, at time of AM, MW and LW band random system.	8 FM/AM channel fixed memory system.

- MC1 and MC2 Inputs are of mutual resetting I/O type with an internal latch circuit.

(Note) MC1 and MC2 terminals are of C-MOS I/O type and has no built-in driver.

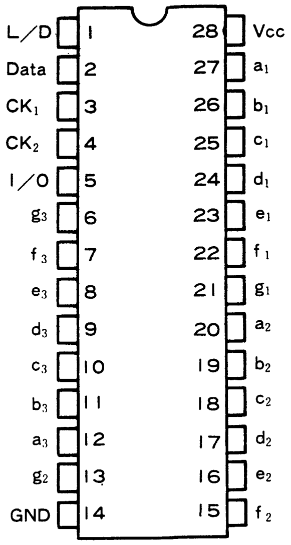
5. Receiving Frequency Display

The frequency display of TC9147P is explained here. The linear display of TC9146AP will be separately explained. Receiving frequency is displayed using the external static display driver TC6301AP.

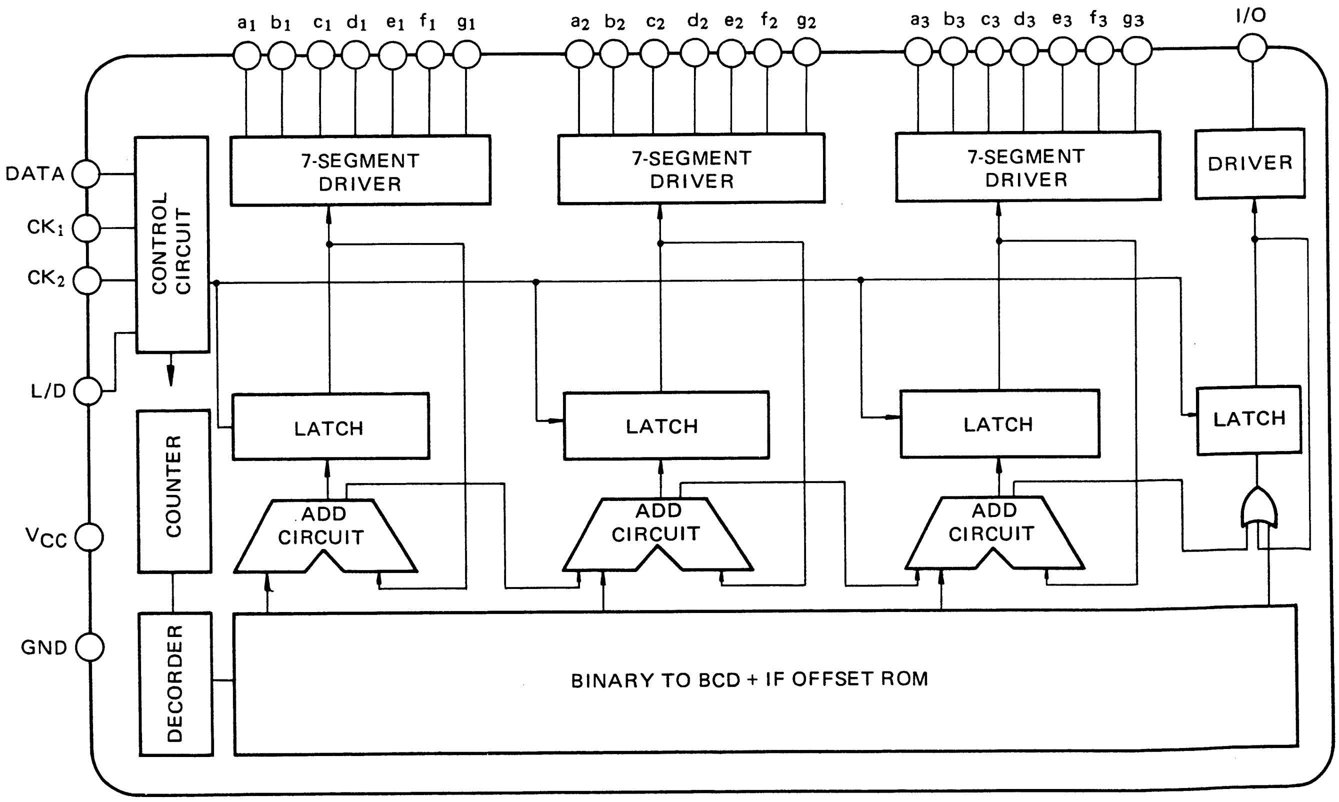
- **Maximum Ratings (Ta = 25°C)**

Characteristic	Symbol	Tating	Unit
Supply Voltage	V_{CC}	8	V
Input Voltage	V_{IN}	$-0.3 \sim V_{CC} + 0.3$	V
Output Current	I_{OL} (MAX)	20	mA
Output Voltage	V_{OH} (MAX)	20	V
Power Dissipation	P_D	1.0	W
Operating Temperature	Topr	−30 ~ 75	°C
Storage Temperature	Tstg	−55 ~ 150	°C

Pin Connections


L/D 1
Data 2
CK1 3
CK2 4
I/O 5
g3 6
f3 7
e3 8
d3 9
c3 10
b3 11
a3 12
g2 13
GND 14
28 Vcc
27 a1
26 b1
25 c1
24 d1
23 e1
22 f1
21 g1
20 a2
19 b2
18 c2
17 d2
16 e2
15 f2

- **Block Diagram**


a1 b1 c1 d1 e1 f1 g1
a2 b2 c2 d2 e2 f2 g2
a3 b3 c3 d3 e3 f3 g3
I/O
DATA
CK1
CK2
L/D
Vcc
GND
CONTROL CIRCUIT
COUNTER
DECORDER
7-SEGMENT DRIVER
7-SEGMENT DRIVER
7-SEGMENT DRIVER
DRIVER
LATCH
LATCH
LATCH
LATCH
ADD CIRCUIT
ADD CIRCUIT
ADD CIRCUIT
BINARY TO BCD + IF OFFSET ROM

- **Pin Description**

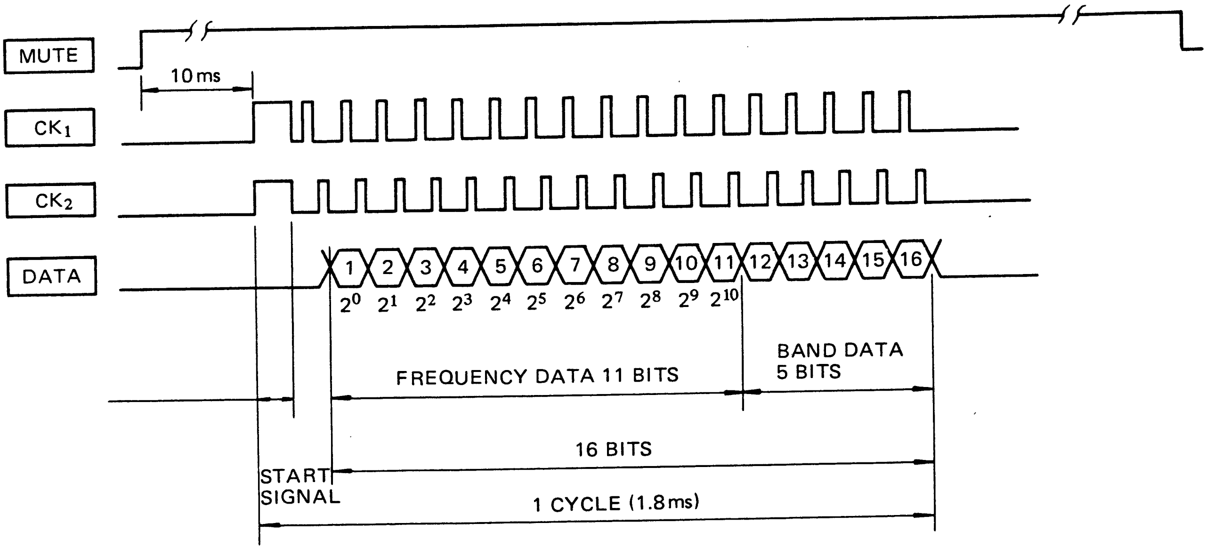
Pin No.	Name	Functional Description	Remarks
1	L/D	Output state switching signal input. Signal input for switching output state by displays (LED, FL and LCD).	
2	Data	Receiving frequency data signal input. Signal is input in serial from system controller.	
3, 4	CK_1, CK_2	Timing clock signal input.	
5	1/0	Segment drive signal output. For FM the digit of 100 MHz and for AM that of 1000 kHz are displayed respectively. Since both FM and AM are 1 or 0, one pin only is sufficient for output.	With built-intransistors of high resisting voltage and large current flow.
6 ~ 12	$a_3 \sim g_3$	7-segment drive signal output. Digits of 10 MHz for FM and those of 100 kHz for AM are displayed, respectively	With built-intransistors of high resisting voltage and large current flow.
13, 15~20	$a_2 \sim g_2$	7-segment drive signal output. Digits of 1 MHz for FM and those of 10 kHz for AM and displayed, respectively.	With built-intransistors of high resisting voltage and large current flow.
21 ~ 27	$a_1 \sim g_1$	7-segment drive signal output. Digits of 100 kHz for AM and those of 1 kHz for AM are displayed, respectively.	With built-intransistors of high resisting voltage and large current flow.
14, 28	V_{CC}, GND	Power supply GND.	

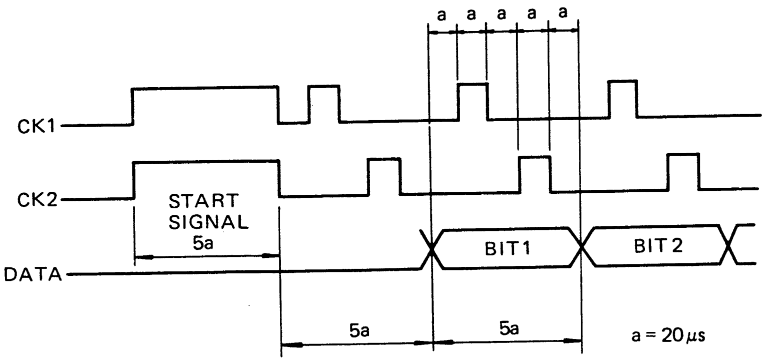
- **Electrical Characteristics (Unless otherwise specified, $V_{CC} = 5V$, $Ta = 25°C$)**

Characteristic		Symbol	Test Circuit	Test Condition	Min.	Typ.	Max.	Unit
Operating Supply Voltage Range		V_{CC}		$Ta = -30 \sim 75°C$	4.5	5.0	5.5	V
Operating Supply Current		I_{CC}		No load	–	–	16	mA
Input Voltage	"H" Level	V_{IH}		Data, CK_1, CK_2, L/D	4.0	–	–	V
	"L" Level	V_{IH}		Data, CK_1, CK_2, L/D	–	–	1.0	V
Input Current	"H" Level	I_{IH}		Data, $V_{IH} = 5V$	–	–	0.6	mA
	"L" Level	I_{IL}		Data, $V_{IL} = 0V$	–0.1	–	–	mA
Output Current		I_O		$a_1 \sim g_1$, $a_2 \sim g_2$, $a_3 \sim g_3$, 1/0	15	–	–	mA
Output Saturation Voltage		V_{CE} (sat)		$a_1 \sim g_1$, $a_2 \sim g_2$, $a_3 \sim g_3$, 1/0, $I_{OL} = 15 mA$	–	–	1.2	V
Timing Input Operating Frequency		f_{opr}		Data, CK_1, CK_2	–	–	120	kHz

Receiving frequency data in serially transfered to TD6301AP through DATA, CK1 and CK2 terminals.

- The Output timings of DATA, CK1 and CK2 terminal are shown in the following diagram.


MUTE
CK1
CK2
DATA
10 ms
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
2^0 2^1 2^2 2^3 2^4 2^5 2^6 2^7 2^8 2^9 2^{10}
FREQUENCY DATA 11 BITS
BAND DATA 5 BITS
16 BITS
START SIGNAL
1 CYCLE (1.8 ms)


a a a a a
CK1
CK2
DATA
START SIGNAL 5a
BIT1
BIT2
5a
5a
a = 20 µs

(1) DATA Output
Frequency data and band data are serially transmitted in 16 bits. 1 ~ 11 bits are frequency data and 12 ~ 16 bits are band data.

- Frequency Data
  This is a value of receiving frequency minus the lower band edge of that band. This value is transmitted in binary 11 bits.
- Band data are as shown in the table.

bit 12	13	14	15	16	Band
1	0	0	0	0	LW Band
0	1	0	0	0	FM JAPAN Band
0	0	1	0	0	FM U.S.A./Europe Band
0	0	0	1	0	MW 9 kHz separation
0	0	0	0	1	MW 10 kHz separation

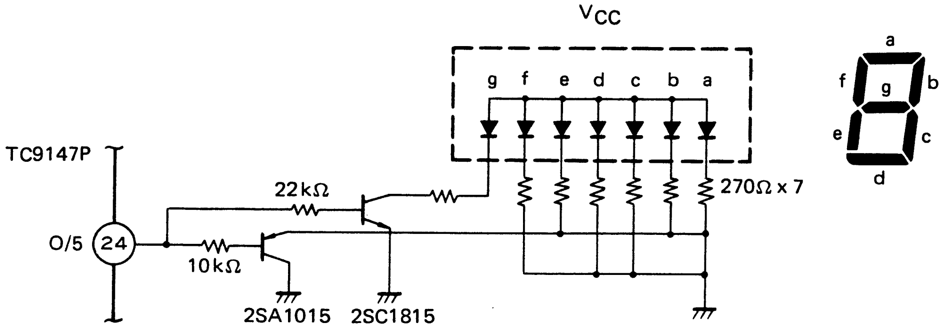
(2) CK1, CK2 Output
These outputs are timing clocks for reading DATA output by TD6301AP. DATA, CK1 and CK2 outputs are transmitted by are cycle only in the following cases:

- When the inhibit state is released.
- When a band is changed.
- When the preset memory is read.
- At time of UP/DOWN tuning.

(3) 50 kHz Frequency Display in FM Band for Europe
The 50 kHz display in FM Band for Europe is made at O/5 output.

- At time of 50 kHz, output will become "H" level. When other areas are assigned or at time of MW and LW bands, output is fixed at "L" level.

Example of Display by 7-Segment LED.



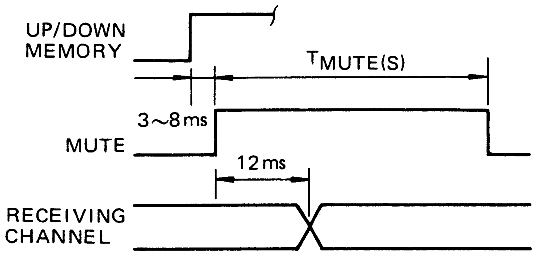
VCC
g f e d c b a
a
b
c
d
e
f
g
TC9147P
O/5
24
22kΩ
10kΩ
270Ω x 7
2SA1015
2SC1815

6. Muting Output

In order to prevent generation of abnormal sound at time of key operation, muting signal is transmitted from the MUTE terminal at the timings shown in the following diagrams.

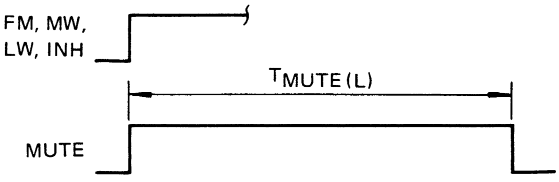
- Muting output time at time of restoration from the inhibit state or band switching is extended to about 2 times of that in normal cases. (This is also true when a band is changed according to the memory read in the random memory system.)
- When the multiple band input keys are pushed or during the fast forwarding or auto search tuning, muting output is kept at "H" level.
- The receiving channel (division of the programmable counter) changes 12 mS later after muting signal is transmitted. This will provide a margin to muting application time.

(1) Manual UP/DOWN, Memory Read



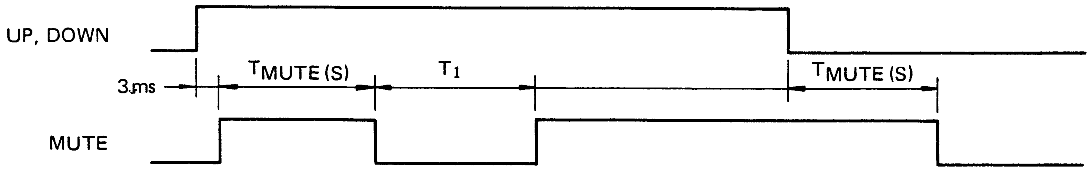
UP/DOWN
MEMORY
TMUTE(S)
3~8 ms
MUTE
12 ms
RECEIVING
CHANNEL

(2) Restoration from Inhibit status, Band Switching



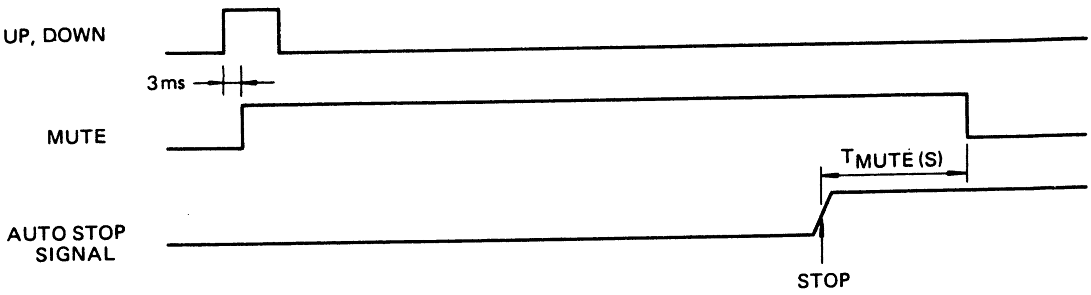
FM, MW,
LW, INH
TMUTE(L)
MUTE

(3) Manual Fast Forward



UP, DOWN
3ms
TMUTE(S)
T1
TMUTE(S)
MUTE

(4) Auto Search Tuning


UP, DOWN
3ms
MUTE
$T_{MUTE\,(S)}$
AUTO STOP SIGNAL
STOP

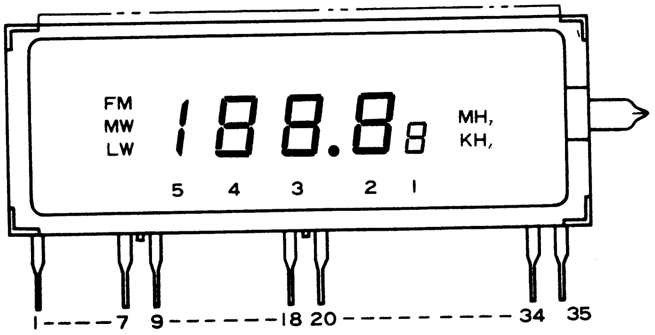
$$T_{MUTE\,(L)} = \frac{15}{f_{OSC1}} \text{ (sec) } (= 750\,\text{ms})$$

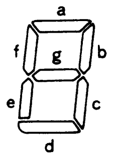
$$T_{MUTE\,(S)} = T_1 = \frac{7}{f_{OSC1}} \text{ (sec) } \begin{array}{l}(= 350\,\text{ms})\\ (\text{at } f_{OSC1} = 20\,\text{Hz})\end{array}$$

- Electrode Connection

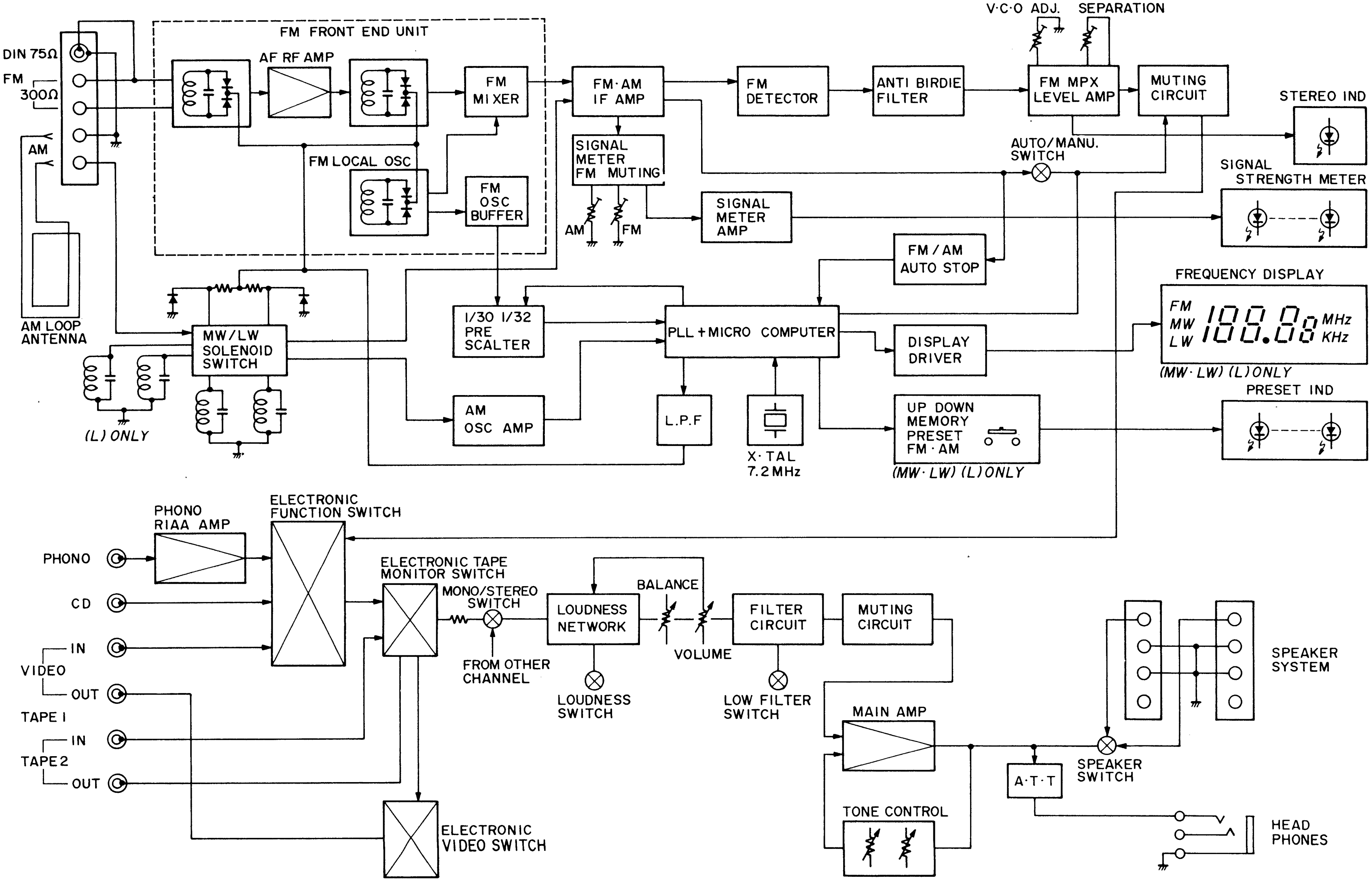
PIN No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Electrode Connection	W/O LW	F	b_5 c_5	a_4	f_4	e_4	d_4	c_4	IC	g_4	b_4	a_3	f_3	e_3	d_3	c_3	g_3	b_3	a_2
	W/ LW	F	b_5 c_5	a_4	f_4	e_4	d_4	c_4	IC	g_4	b_4	a_3	f_3	e_3	d_3	c_3	g_3	b_3	a_2

PIN No.		19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Electrode Connection	W/O LW	IC	f_2	e_2	d_2	c_2	g_2	b_2	b_1 e_1	g_1	kHz	MHz	FM Dp	AM	a_1 d_1 c_1 f_1	G	G	F
	W/ LW	IC	f_2	e_2	d_2	c_2	g_2	b_2	b_1 e_1	g_1	kHz	MHz	FM Dp a_1 c_1 d_1 f_1	MW	LW	G	G	F


FM
MW
LW
188.8
8
MH,
KH,
5
4
3
2
1
1----7
9-------18
20-----------34
35



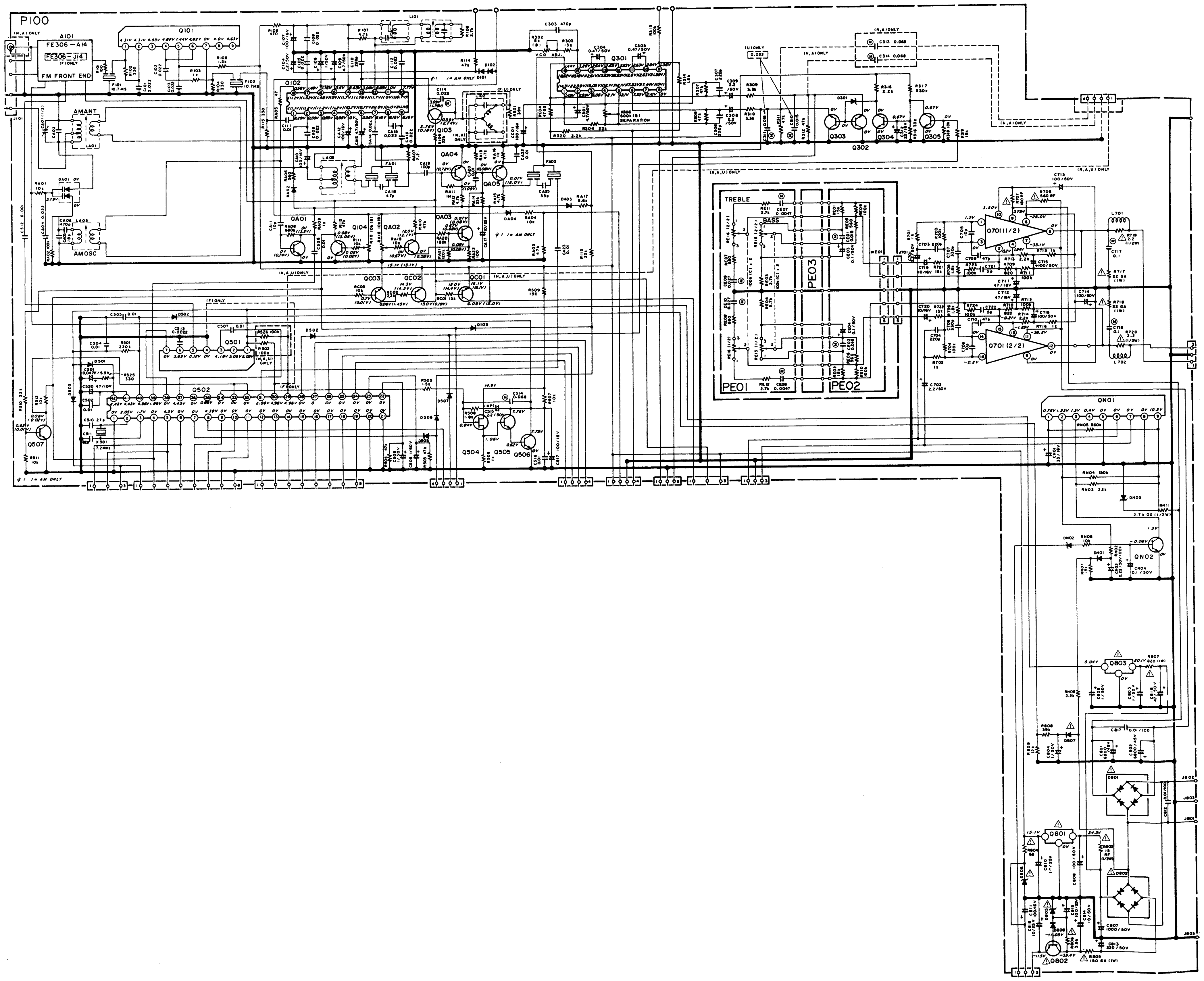
8. BLOCK DIAGRAM


DIN 75Ω
FM 300Ω
AM
AM LOOP ANTENNA
FM FRONT END UNIT
AF RF AMP
FM MIXER
FM LOCAL OSC
FM OSC BUFFER
FM·AM IF AMP
SIGNAL METER FM MUTING
AM
FM
SIGNAL METER AMP
FM DETECTOR
ANTI BIRDIE FILTER
V·C·O ADJ.
SEPARATION
FM MPX LEVEL AMP
MUTING CIRCUIT
STEREO IND
AUTO/MANU. SWITCH
SIGNAL STRENGTH METER
FM / AM AUTO STOP
FREQUENCY DISPLAY
FM
MW
LW
188.88
MHz
KHz
(MW·LW) (L) ONLY
MW/LW SOLENOID SWITCH
(L) ONLY
1/30 1/32 PRE SCALTER
PLL + MICRO COMPUTER
DISPLAY DRIVER
AM OSC AMP
L.P.F
X·TAL 7.2MHz
UP DOWN MEMORY PRESET FM·AM
(MW·LW) (L) ONLY
PRESET IND
PHONO RIAA AMP
ELECTRONIC FUNCTION SWITCH
PHONO
CD
VIDEO
IN
OUT
TAPE 1
TAPE 2
IN
OUT
ELECTRONIC TAPE MONITOR SWITCH
MONO/STEREO SWITCH
FROM OTHER CHANNEL
LOUDNESS NETWORK
LOUDNESS SWITCH
BALANCE
VOLUME
FILTER CIRCUIT
LOW FILTER SWITCH
MUTING CIRCUIT
MAIN AMP
TONE CONTROL
A·T·T
SPEAKER SWITCH
SPEAKER SYSTEM
HEAD PHONES
ELECTRONIC VIDEO SWITCH

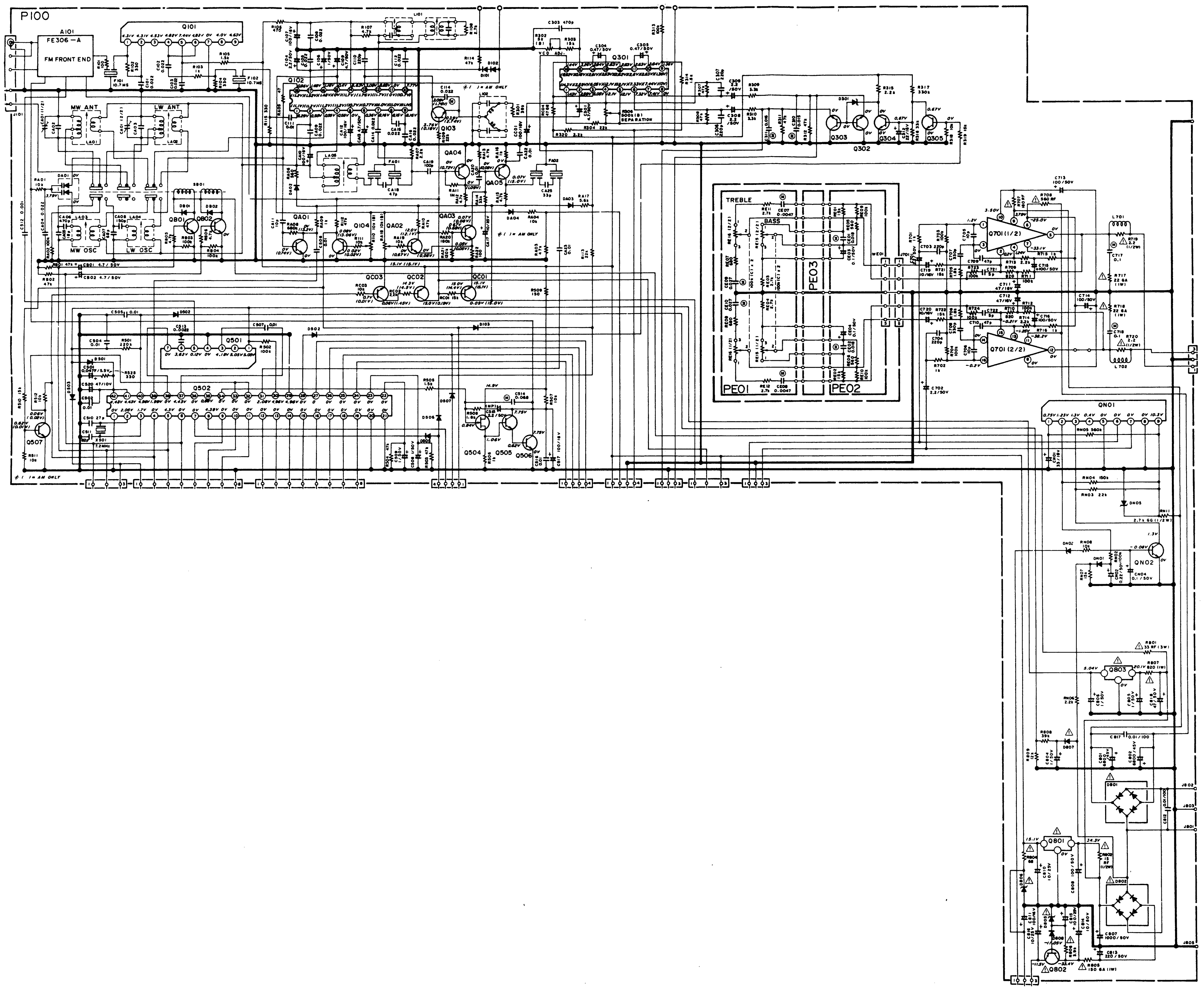
9. SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS

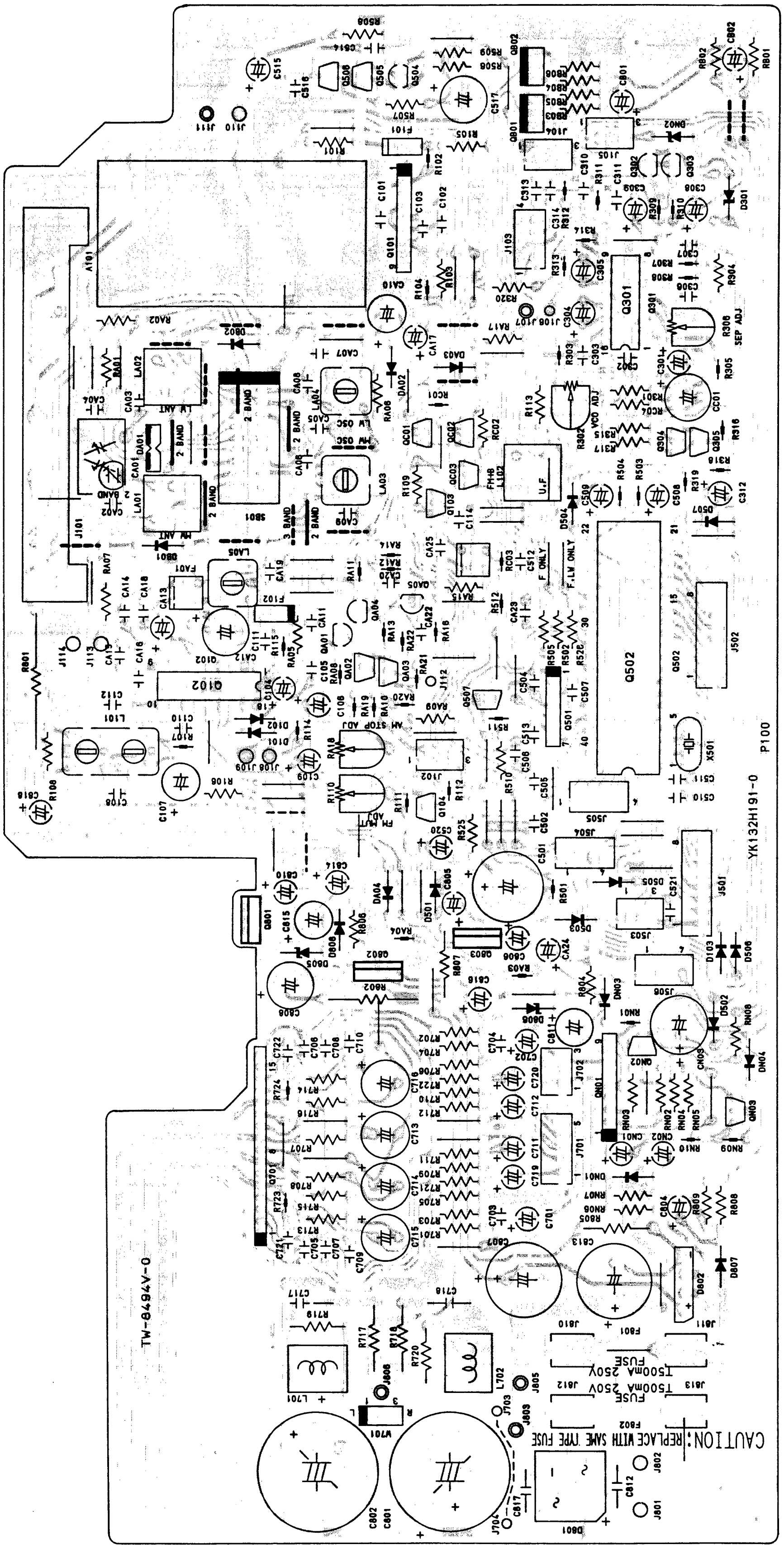
9.1 Tuner/Main Amp/Power Supply (P100) Schematic Diagram and Component Locations

SR430

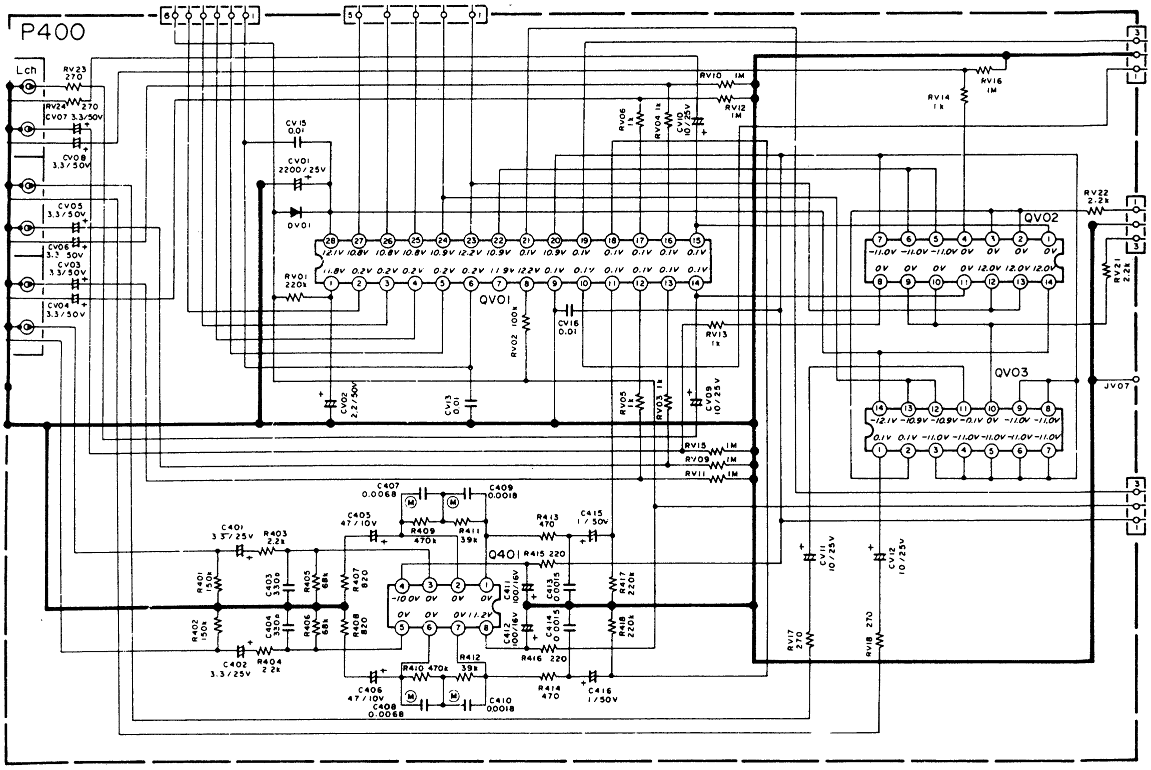

P100
A101
FE306 – A14
FE306 – J14
FM FRONT END
J101
Q101
Q102
Q103
Q104
L101
AMANT
AMOSC
QA01
QA02
QA03
QA04
QA05
QC01
QC02
QC03
Q301
Q302
Q303
Q304
Q305
SEPARATION
Q501
Q502
Q504
Q505
Q506
Q507
TREBLE
BASS
PE01
PE02
PE03
Q701 (1/2)
Q701 (2/2)
QN01
QN02
Q801
Q802
Q803
D801
D802
J801
J802
J803
J805

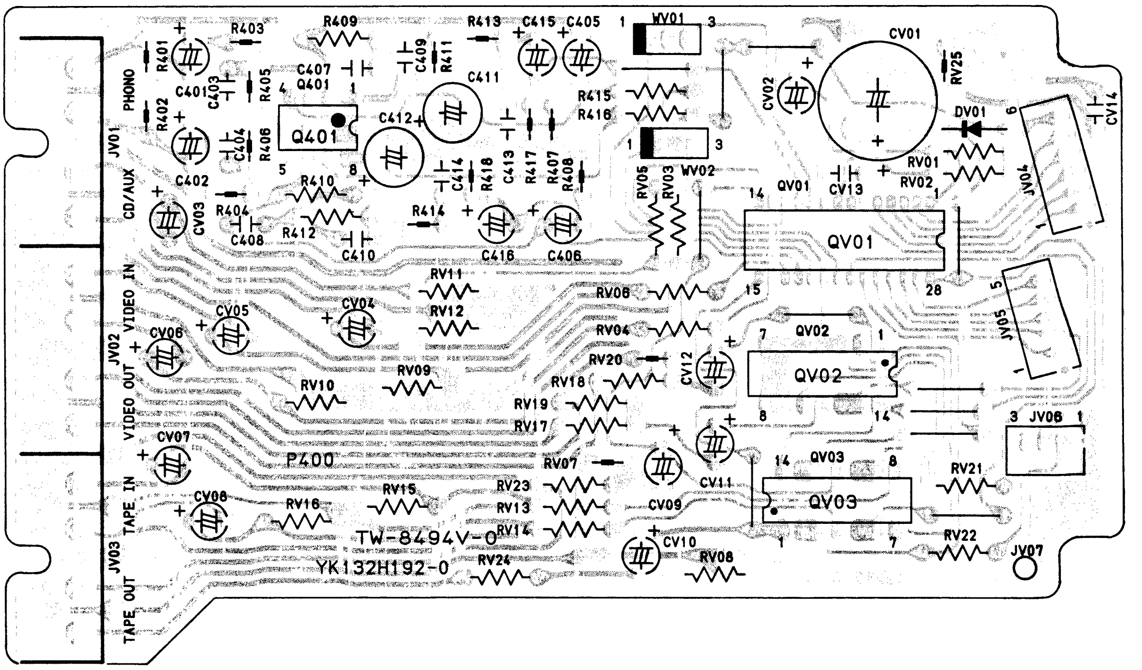
SR430L


P100
A101
FE306-A
FM FRONT END
J101
F101 10.7MHz
F102 10.7MHz
Q101
Q102
Q103
Q104
L101
L102
MW ANT
LW ANT
LA01
LA02
LA03
LA04
LA05
MW OSC
LW OSC
Q801
Q802
QA01
QA02
QA03
QA04
QA05
QC01
QC02
QC03
FA01
FA02
Q301
Q302
Q303
Q304
Q305
SEPARATION
VCO
Q501
Q502
Q504
Q505
Q506
Q507
X501
7.2MHz
TREBLE
BASS
PE01
PE02
PE03
WE01
Q701 (1/2)
Q701 (2/2)
L701
L702
QN01
QN02
Q801
Q802
Q803
D801
D802
J802
J803
J801
J805
#1 : AM ONLY


CAUTION: REPLACE WITH SAME TYPE FUSE
FUSE T500mA 250V
FUSE T500mA 250V
YK132H191-0
P100
TW-8494V-0
SEP ADJ
VCO ADJ
AM STOP ADJ
FM MUT ADJ
Q301
Q502
Q102
A101
J101
J501
J502
J701
J702
L701
L702
F801
F802
D801
C801
C802

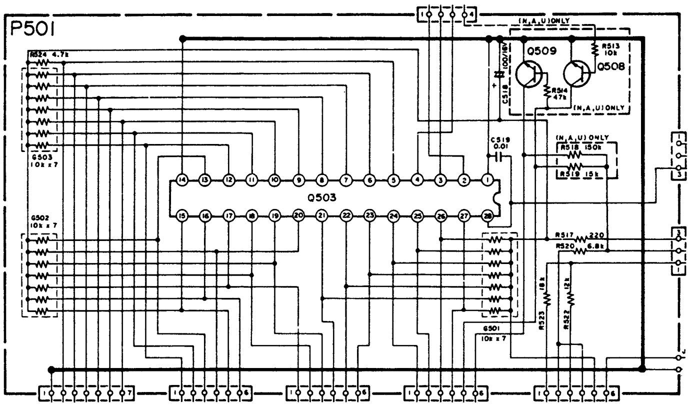
9.2 Phone Amp (P400) Schematic Diagram and Component Locations


P400
Lch
RV23 270
RV24 270
CV07 3.3/50V
CV08 3.3/50V
CV05 3.3/50V
CV06 3.3/50V
CV03 3.3/50V
CV04 3.3/50V
CV15 0.01
CV01 2200/25V
DV01
RV01 220k
QV01
RV02 100k
CV16 0.01
CV02 2.2/50V
CV13 0.01
RV13 1k
RV05 1k
RV03 1k
CV09 10/25V
RV10 1M
RV12 1M
RV06 1k
RV04 1k
CV10 10/25V
RV16 1M
RV14 1k
RV22 2.2k
RV21 2.2k
QV02
QV03
JV07
RV15 1M
RV09 1M
RV11 1M
C407 0.0068
C409 0.0018
C405 47/10V
R409 470k
R411 39k
R413 470
C415 1/50V
C401 3.3/25V
R403 2.2k
Q401
R415 220
R401 150k
C403 330p
R405 68k
R407 820
C411 100/16V
C413 0.0015
R417 220k
R402 150k
C404 330p
R406 68k
R408 820
C412 100/16V
C414 0.0015
R418 220k
C402 3.3/25V
R404 2.2k
R410 470k
R412 39k
R416 220
R414 470
C416 1/50V
C406 47/10V
C408 0.0068
C410 0.0018
CV11 10/25V
CV12 10/25V
RV17 270
RV18 270

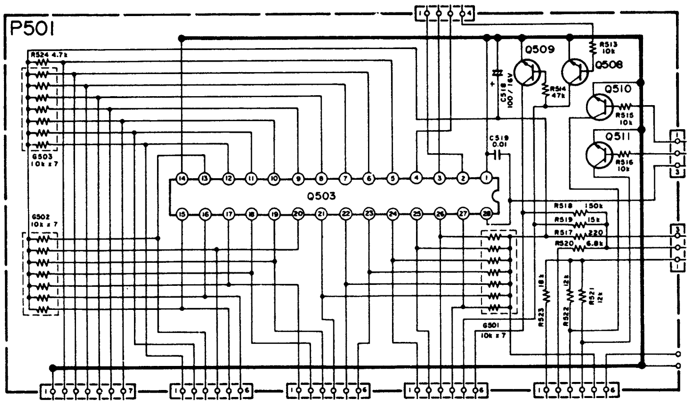

PHONO
JV01
CD/AUX
JV02
VIDEO IN
VIDEO OUT
TAPE IN
JV03
TAPE OUT
R401
R402
R403
R404
R405
R406
R407
R408
R409
R410
R411
R412
R413
R414
R415
R416
R417
R418
C401
C402
C403
C404
C405
C406
C407
C408
C409
C410
C411
C412
C413
C414
C415
C416
Q401
WV01
WV02
CV01
CV02
CV03
CV04
CV05
CV06
CV07
CV08
CV09
CV10
CV11
CV12
CV13
CV14
RV25
DV01
RV01
RV02
RV03
RV04
RV05
RV06
RV07
RV08
RV09
RV10
RV11
RV12
RV13
RV14
RV15
RV16
RV17
RV18
RV19
RV20
RV21
RV22
RV23
RV24
JV04
JV05
JV06
JV07
QV01
QV02
QV03
P400
TW-8494V-0
YK132H192-0

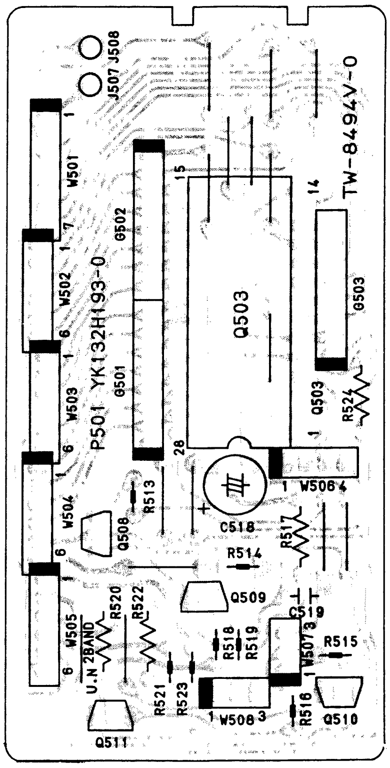
9.3 Display Driver (P501) Schematic Diagram and Component Locations

SR430


P501
(N,A,U) ONLY
Q509
Q508
R513 10k
R514 47k
C518 100/16V
C519 0.01
R518 150k
R519 15k
R517 220
R520 6.8k
R524 4.7k
G503 10k x 7
G502 10k x 7
G501 10k x 7
Q503
R523 18k
R522 12k

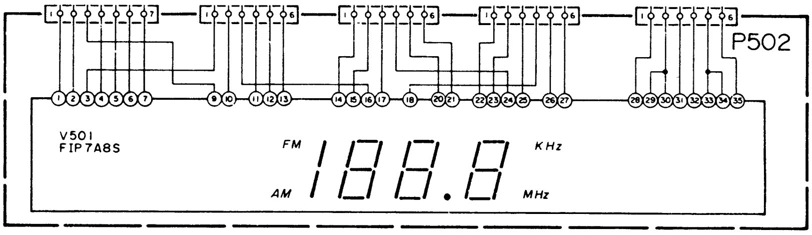
SR430L


P501
Q509
Q508
Q510
Q511
R513 10k
R514 47k
R515 10k
R516 10k
C518 100/16V
C519 0.01
R518 150k
R519 15k
R517 220
R520 6.8k
R524 4.7k
G503 10k x 7
G502 10k x 7
G501 10k x 7
Q503
R523 18k
R522 12k
R521 12k

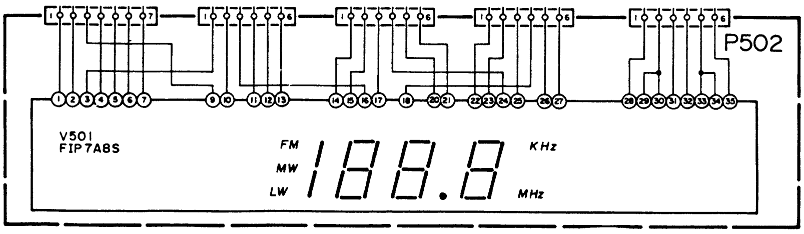

J507 J508
TW-8494V-0
W501
W502
W503
W504
W505
P501 YK132H193-0
G502
G501
Q503
G503
R524
W506
C518
R514
R517
R513
Q508
Q509
C519
R520
R522
U.N 2BAND
R518
R519
W507
R515
R521
R523
W508
R516
Q510
Q511

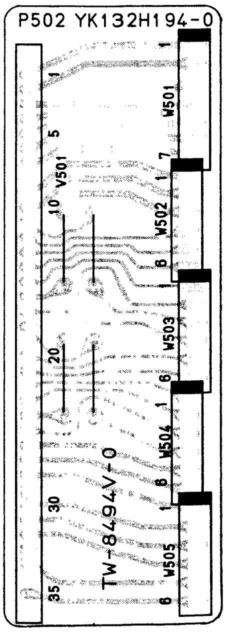
9.4 Display (P502) Schematic Diagram and Component Locations

SR430

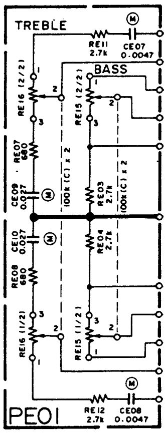

P502
V501
FIP7A8S
FM
AM
KHz
MHz

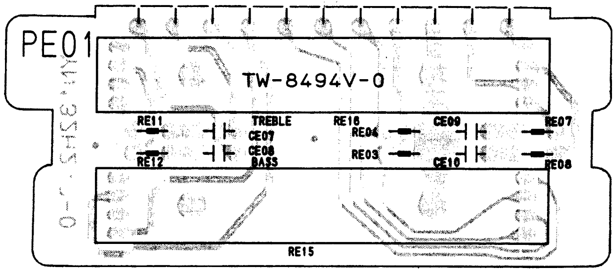
SR430L


P502
V501
FIP7A8S
FM
MW
LW
KHz
MHz

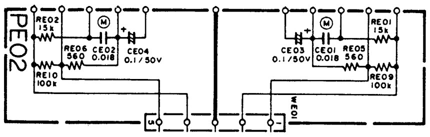

P502 YK132H194-0
W501
W502
W503
W504
W505
V501
TW-8494V-0

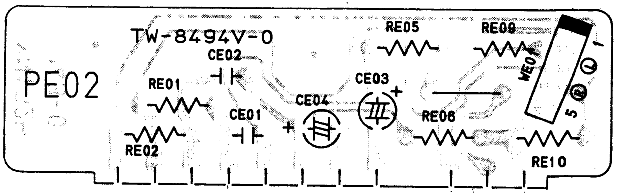
9.5 Tone Volume (PE01) Schematic Diagram and Component Locations


TREBLE
RE11 2.7k
CE07 0.0047
BASS
RE16 (2/2)
RE15 (2/2)
RE07 680
CE09 0.027
100k(C) x 2
RE03 2.7k
CE10 0.027
RE04 2.7k
RE08 680
RE16 (1/2)
RE15 (1/2)
RE12 2.7k
CE08 0.0047
PE01

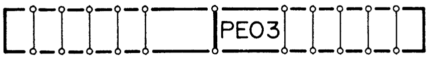

PE01
TW-8494V-0
RE11
TREBLE
CE07
RE16
RE04
CE09
RE07
RE12
CE08
BASS
RE03
CE10
RE08
RE15

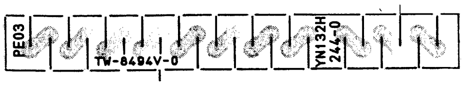
9.6 Tone Circuit (PE02) Schematic Diagram and Component Locations


PE02
RE02 15k
RE06 560
CE02 0.018
CE04 0.1/50V
RE10 100k
CE03 0.1/50V
CE01 0.018
RE05 560
RE01 15k
RE09 100k
WE01

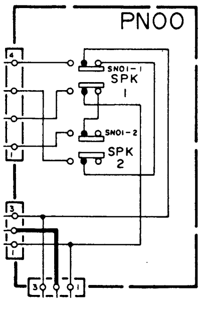

TW-8494V-0
PE02
CE02
RE01
CE01
RE02
CE04
CE03
RE05
RE09
WE01
RE06
RE10

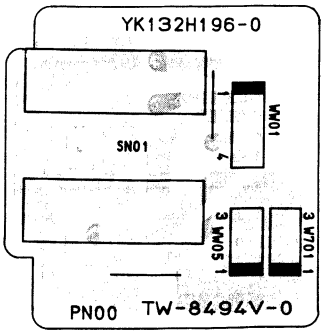
9.7 Tone Jamper (PE03) Schematic Diagram and Component Locations




PE03
TW-8494V-0
YN132H 244-0

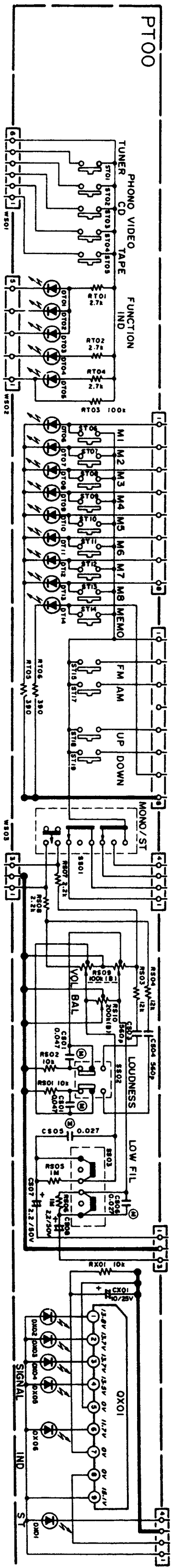
9.8 Speaker Switch (PN00) Schematic Diagram and Component Locations


PN00
SN01-1
SPK 1
SN01-2
SPK 2

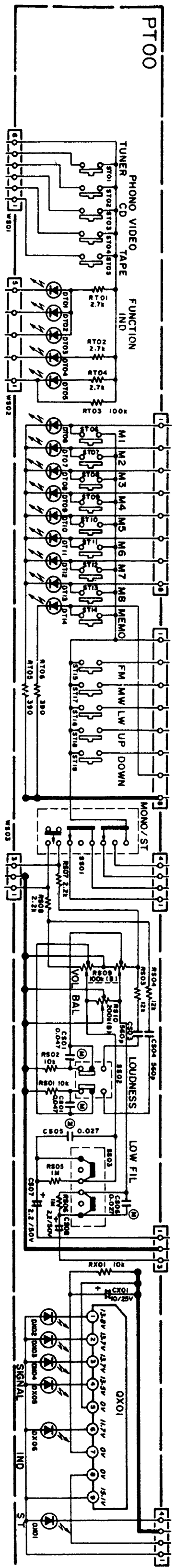

YK132H196-0
SN01
WW01
WW05
W701
PN00
TW-8494V-0

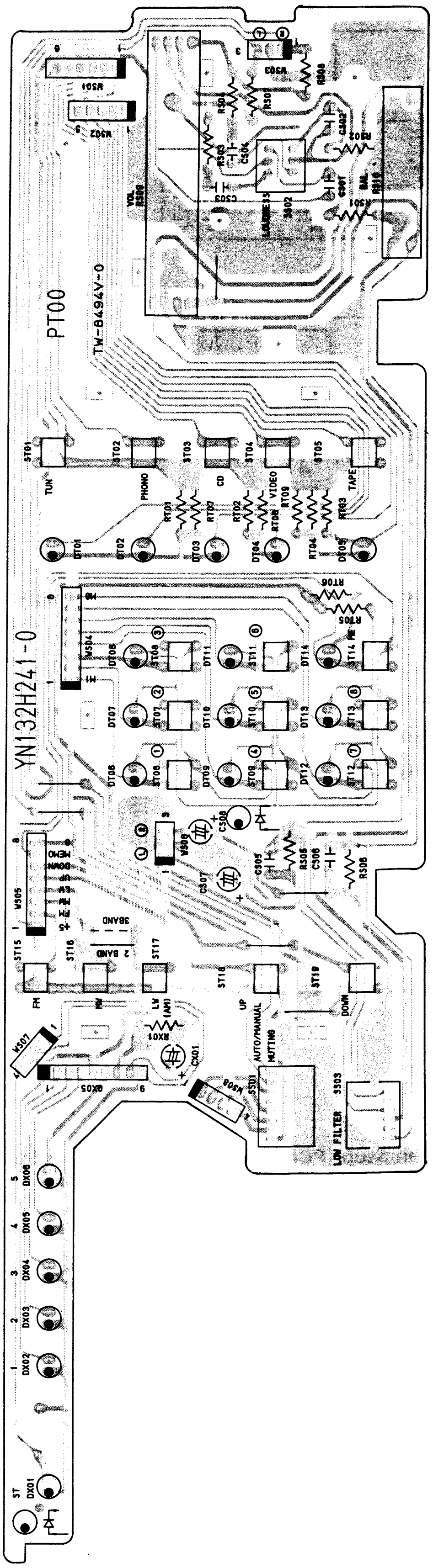
9.9 Control Switch (PT00) Schematic Diagram and Component Locations

SR430


PT00
TUNER
PHONO
CD
VIDEO
TAPE
FUNCTION IND
M1
M2
M3
M4
M5
M6
M7
M8
MEMO
FM
AM
UP
DOWN
MONO/ST
VOL
BAL
LOUDNESS
LOW FIL
OX01
SIGNAL
IND
ST

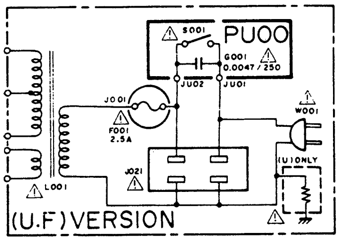
SR430L


PT00
TUNER
PHONO
CD
VIDEO
TAPE
FUNCTION IND
M1
M2
M3
M4
M5
M6
M7
M8
MEMO
FM
MW
LW
UP
DOWN
MONO/ST
VOL
BAL
LOUDNESS
LOW FIL
OX01
SIGNAL
IND
ST

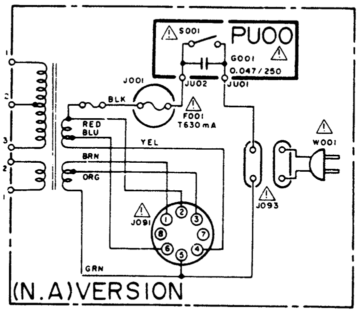

PT00
TW-8494V-0
YN132H241-0
TUN
PHONO
CD
VIDEO
TAPE
LOUDNESS
VOL
BAL
AUTO/MANUAL
MUTING
LOW FILTER
ST

9.10 Power Switch (PU00) Schematic Diagram and Component Locations

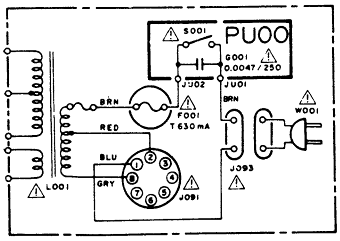
SR430
(U, F) Version

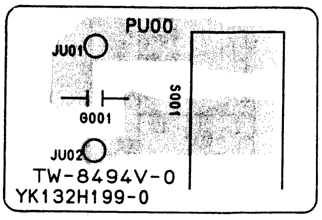

PUOO
S001
G001
0.0047 / 250
JU02
JU01
J001
F001
2.5A
W001
J021
(U) ONLY
L001
(U.F) VERSION

(N, A) Version

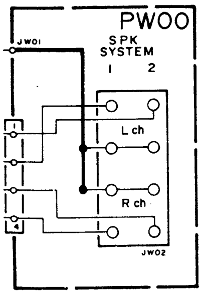

PUOO
S001
G001
0.047 / 250
J001
JU02
JU01
BLK
F001
T630mA
RED
BLU
YEL
BRN
ORG
W001
J093
J091
GRN
(N.A) VERSION

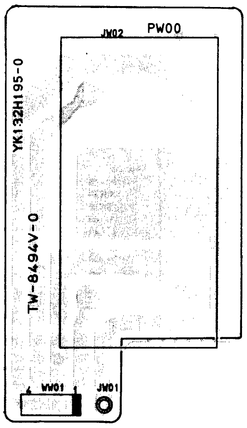
SR430L


PUOO
S001
G001
0.0047 / 250
JU02
JU01
BRN
F001
T 630 mA
RED
BLU
GRY
W001
J093
J091
L001

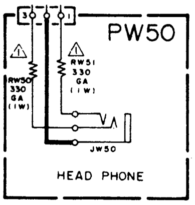

PU00
JU01
S001
G001
JU02
TW-8494V-0
YK132H199-0

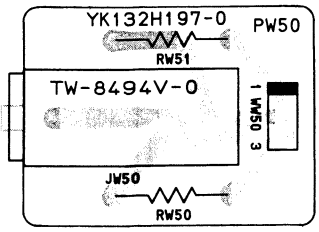
9.11 Speaker Terminal (PW00) Schematic Diagram and Component Locations


PWOO
JW01
SPK
SYSTEM
1 2
L ch
R ch
JW02
1
4


JW02
PW00
YK132H195-0
TW-8494V-0
4
WW01
1
JW01

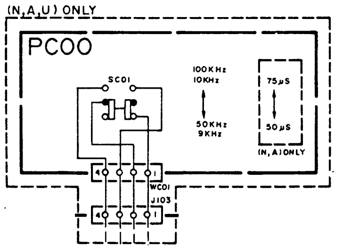
9.12 Headphone (PW50) Schematic Diagram and Component Locations

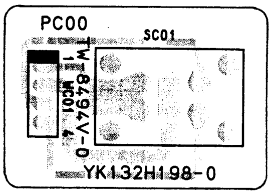

3
1
PW50
RW50
330
GA
(1W)
RW51
330
GA
(1W)
JW50
HEAD PHONE


YK132H197-0
PW50
RW51
TW-8494V-0
1
WW50
3
JW50
RW50

9.13 Scan Stop (PC00) Schematic Diagram and Component Locations
(U, N) Version Only

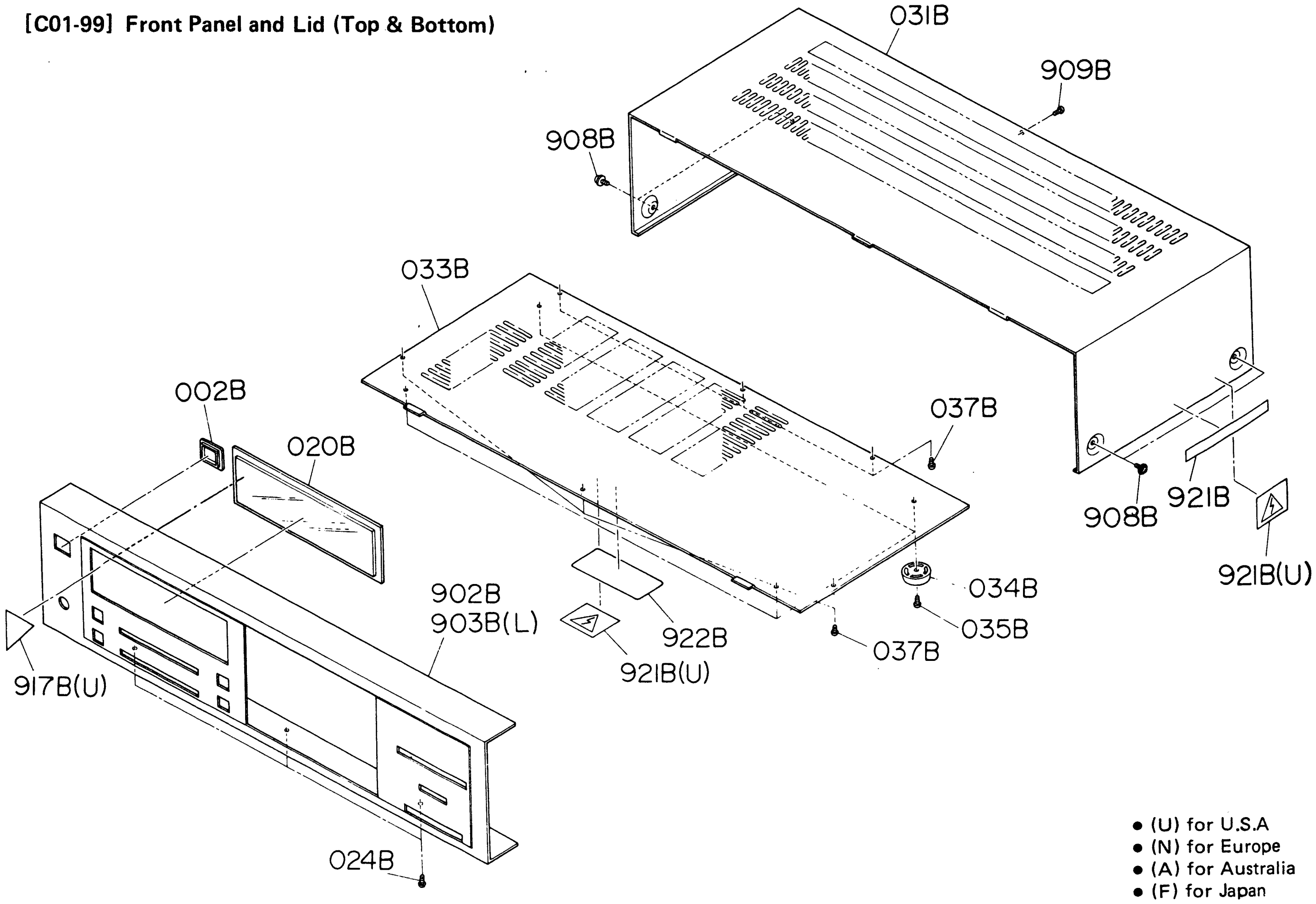
SR430


(N,A,U) ONLY
PCOO
SC01
100KHz
10KHz
50KHz
9KHz
75µS
50µS
(N,A) ONLY
4
1
WC01
J103


PC00
SC01
1
WC01
4
TW-8494V-0
YK132H198-0

10. EXPLODED VIEW AND PARTS LIST

[C01-99] Front Panel and Lid (Top & Bottom)

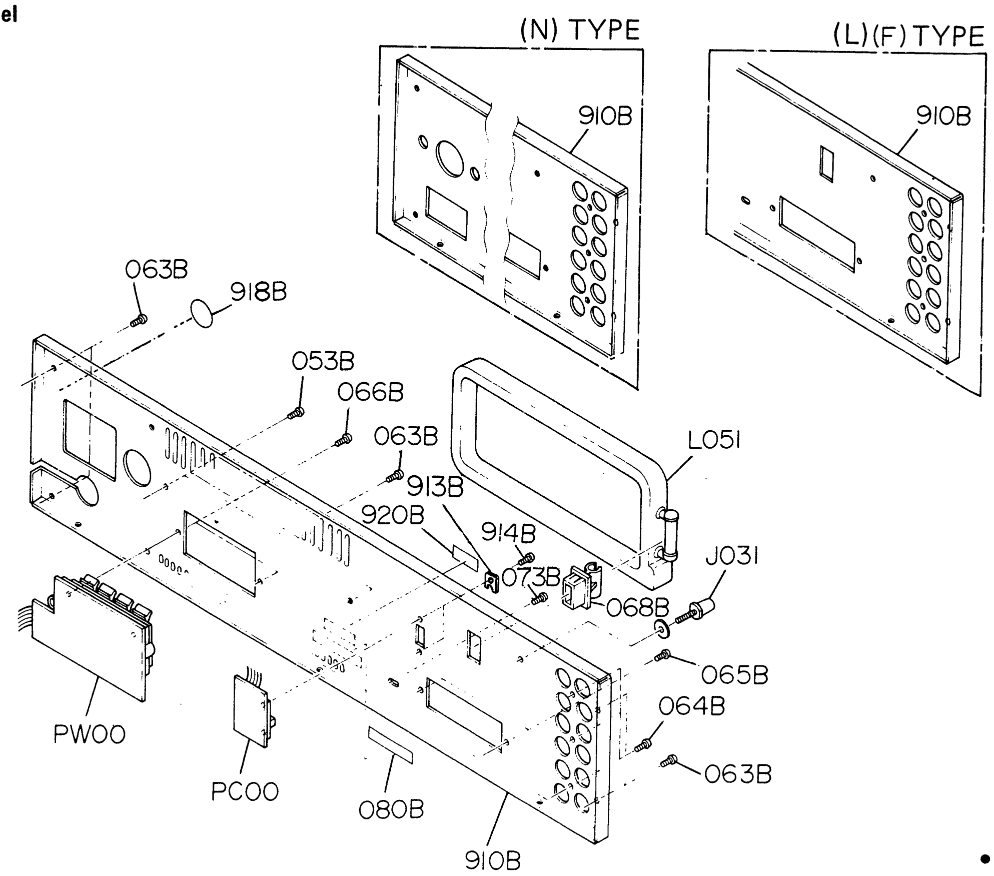


- (U) for U.S.A
- (N) for Europe
- (A) for Australia
- (F) for Japan

REF. DESIG	Q'TY				PART NO.	DESCRIPTION
	U	N	A	F		
						(SR430 ONLY)
A	1	1	1	1	132H063400	Front Panel Assembly
002B	1	1	1	1	415H259210	Bushing Power Switch
020B	1	1	1	1	132H158010	Window Display
902B	1	1	1	1	132H063010	Escutcheon, Front Panel
						(SR430/SR430L)
024B	3	3	3	3	51280308B0	B.H. Tapped Screw B3 x 8
031B	1	1	1	1	132H257010	Lid, Top Cover
033B	1	1	1	1	132H257020	Lid, Bottom Cover
034B	4	4	4	4	416H057010	Leg
035B	4	4	4	4	51280408B0	B.H. Tapped Screw B4 x 8
037B	6	6	6	6	51280308B0	B.H. Tapped Screw B3 x 8
908B	4				51260408Z0	B.T. Screw B4 x 8
908B		4	4	4	51260408U0	B.T. Screw B4 x 8
909B	1	1	1	1	51280308B0	B.H. Tapped Screw B3 x 8
917B	1				105H861010	Label, 3 Year ESC
921B	2				117H861010	Label, Caution
921B		1	1		2911861140	Label, Top Cover
922B		1	1		2911861110	Label, Bottom Lid

REF. DESIG	Q'TY				PART NO.	DESCRIPTION
	U	N	A	F		
						(SR430L ONLY)
A		1			133H063400	Front Panel Assembly
002B		1			415H259210	Bushing, Power Switch
020B		1			132H158010	Window Display
903B		1			133H063010	Escutcheon, Front Panel

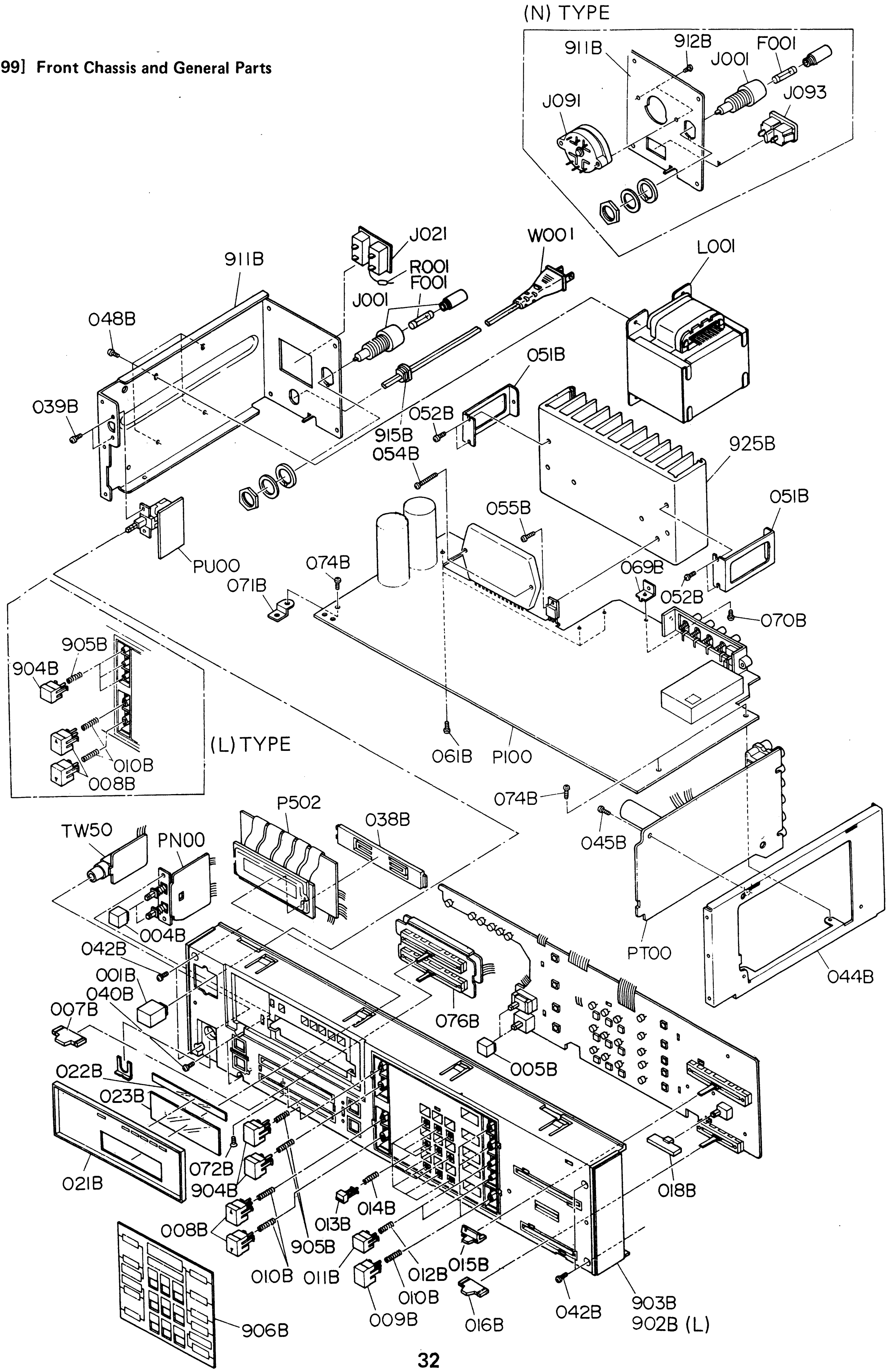
[C02-99] Rear Panel


(N) TYPE
(L)(F) TYPE
910B
910B
063B
918B
053B
066B
063B
913B
920B
914B
073B
L051
J031
068B
065B
064B
063B
PW00
PC00
080B
910B

- (U) for U.S.A
- (N) for Europe
- (A) for Australia
- (F) for Japan

REF. DESIG	Q'TY				PART NO.	DESCRIPTION
	U	N	A	F		
053B	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
063B	6	6	6	6	51280308B0	B.H. Tapped Screw B3 x 8
064B	3	3	3	3	51280308B0	B.H. Tapped Screw B3 x 8
065B	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
066B	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
068B	1	1	1	1	417H271020	Holder, Loop Antenna
073B	1	1	1	1	51280308B0	B.H. Tapped Screw B3 x 8
080B	1	1	1	1	2112265010	Indicator
910B	1				132H160150	Bracket, Rear Panel
910B		1	1		132H160130	Bracket, Rear Panel
910B				1	132H160120	Bracket, Rear Panel
910B		1			133H160110	Bracket, Rear Panel (L)
913B	1	1	1		123H114010	Stopper Scan Step
914B	2	2	2		51102604A0	B.H.M. Screw B2.6 x 4
918B	1				2457861040	Label CSA. (Canada)
920B		1	1		4581861010	Label, Made in Japan
J031	1	1	1	1	YL03010250	Terminal, Grand
L051	1	1	1	1	LA00015020	Antenna Loop

[P01-99] Front Chassis and General Parts

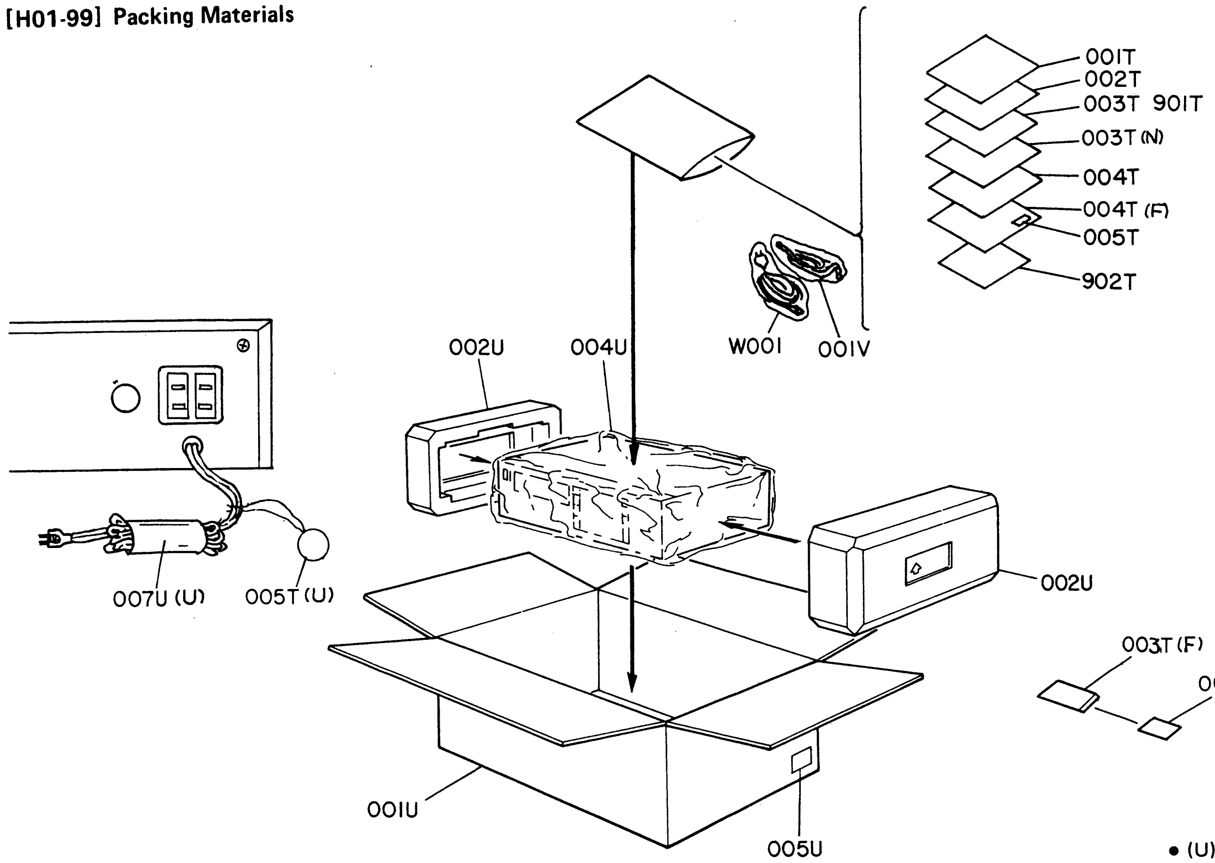

(N) TYPE
911B
912B
F001
J001
J091
J093
J021
R001
F001
J001
W001
L001
911B
048B
039B
051B
052B
915B
054B
925B
055B
051B
PU00
074B
071B
069B
052B
070B
905B
904B
(L) TYPE
010B
008B
061B
P100
P502
038B
074B
045B
TW50
PN00
004B
042B
001B
040B
007B
076B
005B
PT00
044B
022B
023B
021B
072B
904B
018B
008B
013B
014B
905B
010B
011B
012B
015B
010B
009B
016B
042B
903B
902B (L)
906B

- (U) for U.S.A
- (N) for Europe
- (A) for Australia
- (F) for Japan

REF. DESIG	Q'TY				PART NO.	DESCRIPTION
	U	N	A	F		
001B	1	1	1	1	415H154210	Knob, Power
004B	2	2	2	2	132H154010	Knob, SPK SW
005B	2	2	2	2	132H154010	Knob, Muting & Low Filter
007B	2	2	2	2	141T154050	Knob, Bass, Treble
008B	2	2	2	2	416H154220	Knob, Up, Down
009B	3	3	3	3	416H154220	Knob, Tuner, Phono, Tape 2
010B	5	5	5	5	249H115010	Spring, for 008B, 009B
011B	2	2	2	2	420H154210	Knob, CD, Tape 1
012B	2	2	2	2	403H115010	Spring, CD/Tape 1
013B	9	9	9	9	141T154010	Knob, Preset
014B	9	9	9	9	403H115010	Spring, Preset Knob
015B	1	1	1	1	248H154010	Knob, Volume
016B	1	1	1	1	141T154050	Knob, Balance
018B	1	1	1	1	132H154020	Knob, Loudness
021B	1	1	1	1	132H265010	Indicator Display
022B	1	1	1	1	132H158020	Window, Stereo, Signal LED Mask
023B	1	1	1	1	127H158020	Window, Digitron Mask
038B	1	1	1	1	431H258010	Hook, Digitron Csae
039B	2	2	2	2	51100305A9	B.H.M. Screw B3 x 5
040B	2	2	2	2	51100305A9	B.H.M. Screw B3 x 5
042B	4	4	4	4	51280308B0	B.H. Tapped Screw B3 x 8
044B	1	1	1	1	132H160020	Bracket, Right Side
045B	1	1	1	1	51280308B0	B.H. Tapped Screw B3 x 8
048B	4	4	4	4	51280408B0	B.H. Tapped Screw B4 x 8
051B	2	2	2	2	117H160050	Bracket, Heat Sink
052B	4	4	4	4	51280308B0	B.H. Tapped Screw B3 x 8
054B	2	2	2	2	51280315B0	B.H. Tapped Screw B3 x 15
055B	1	1	1	1	51280308B0	B.H. Tapped Screw B3 x 8
061B	3	3	3	3	51280308B0	B.H. Tapped Screw B3 x 8
069B	1	1	1	1	207T160080	Bracket
070B	1	1	1	1	51100305A9	B.H.M. Screw B3 x 5
071B	1	1	1	1	132H160050	Bracket
072B	1	1	1	1	51042606A0	F.H.M. Screw F2.6 x 6
074B	3	3	3	3	51280308B0	B.H. Tapped Screw B3 x 8
075B	1	1	1	1	51100305A9	B.H.M. Screw B3 x 5
076B	1	1	1	1	235H101200	Support
902B		1			132H160110	Bracket, Front Mold (L)
903B	1	1	1	1	132H160010	Bracket, Front Mold
904B	2	2	2	2	416H154220	Knob, FM & AM
904B		3			420H154210	Knob, FM, MW & LW (L)
905B	2	2	2	2	249H115010	Spring
905B		3			403H115010	Spring AM, FM Knob
906B	1	1	1	1	132H127010	Control Board
906B		1			133H127010	Control Board (L)
911B	1			1	132H160030	Bracket, Transformer
911B		1	1		132H160040	Bracket, Transformer
911B		1			132H160140	Bracket, Transformer (L)
912B		2	2		51280308B0	B.H. Tapped Screw B3 x 8
915B	1			1	1455259090	Bushing AC Cord
925B	1	1	1	1	117H267010	Heatsink

REF. DESIG	Q'TY				PART NO.	DESCRIPTION
	U	N	A	F		
F001	1				FS10250500	Fuse, 2.5A 250V
F001		1	1		FS10063800	Fuse, 630mA 250V
F001				1	FS10300650	Fuse, 3A 250V
J001	1				YJ08000300	Jack, Fuse Holder
J001		1	1		YJ08000280	Jack, Fuse Holder
J001				1	YJ03000340	Jack, Fuse Holder
J021	1			1	YJ04001070	Jack, AC Outlet 2P
J091		1	1		BY05080050	Volt. Selector
J091		1			BY05030040	Volt. Selector (L)
J093		1	1		YP04000580	Plug, AC Inlet
L001	1				TS16639010	Power Transformer
L001		1	1		TS16639020	Power Transformer
L001				1	TS16639030	Power Transformer
L001		1			TS16639040	Power Transformer (L)
R001	1				RC10225920	Resistor, 2.2MΩ 1/2W
W001	1				YC01800260	A.C Power Cord
W001				1	YC01800190	A.C Power Cord

[H01-99] Packing Materials



- (U) for U.S.A
- (N) for Europe
- (A) for Australia
- (F) for Japan

REF. DESIG	Q'TY U	N	A	F	PART NO.	DESCRIPTION
001U	1				132H801020	Packing Case
001U		1	1	1	132H801010	Packing Case
001U		1			133H801010	Packing Case (L)
002U	2	2	2	2	117H809010	Cushion, Set
004U	1	1	1	1	9090808030	Polyethlene Sheet, Set
005U	2				9526019020	Serial No. Card
005U		4			9526019060	Serial No. Card
005U			4		9526019030	Serial No. Card
005U				4	9526019040	Serial No. Card
007U	1				2918107390	Sheet, AC Cord
001T	1				132H851210	Instructions
001T		1	1		132H851310	Instructions
001T				1	132H851110	Instructions
002T	1				132H851220	Instructions, Spec Flysheet
002T		1	1		132H851320	Instructions, Spec Flysheet
002T				1	9631000130	Guarantee Card

REF. DESIG	Q'TY U	N	A	F	PART NO.	DESCRIPTION
003T	1				103H854010	Guarantee Card
003T			1		9631000093	Guarantee Card
003T				1	128T854010	Guarantee Card
003T		1			132H856010	Circuit Diagram
003T		1			133H856010	Circuit Diagram (L)
004T	1				2225813010	Enyelope
004T				1	9611000050	User's Card
005T	1				9560000100	Hang Tag
005T				1	9540000010	License
901T	1				2818854040	Guarantee Card, Canada
902T	1				9650000050	S. Station Card, Canada
001V	1	1	1	1	ZA02000070	EXT. Antenna
W001		1			ZC01805010	A.C. Power Cord
W001			1		ZC02006020	A.C. Power Cord

11. ELECTRICAL PARTS LIST

- (U) for U.S.A
- (N) for Europe
- (A) for Australia
- (F) for Japan

REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
						P100-TUNER/MAIN/POWER CIRCUIT BOARD
						(SR430 only)
P100	1	1	1	1	YK132H1910	P.W. Board, Tuner/Main/ Power Supply
	1				ZZ132H1910	P.W. Board Assembly
		1	1		ZZ132H8910	P.W. Board Assembly
						(SR430L only)
P100		1			YK132H1910	P.W. Board, Tuner/Main/ Power Supply
		1			ZZ133H8910	P.W. Board Assembly
						P100-CAPACITORS
A101	1	1	1		AV01202130	VHF Front End
A101				1	AV01201050	VHF Front End
C101	1	1	1	1	DK18223320	Ceramic 0.022μF
C102	1	1	1	1	DK18223320	Ceramic 0.022μF
C103	1	1	1	1	DK18223320	Ceramic 0.022μF
C104	1	1	1	1	EA22505030	Elect 2.2μF 50V
C105	1	1	1	1	DK18223320	Ceramic 0.022μF
C106	1	1	1	1	EA10505030	Elect 1μF 50V
C107	1	1	1	1	EA10701630	Elect 100μF 16V
C108	1	1	1	1	DK18223320	Ceramic 0.022μF
C109	1	1	1	1	EA47505030	Elect 4.7μF 50V
C110	1	1	1	1	DK16221300	Ceramic 220pF ±10%
C111	1	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C112	1	1	1	1	DK18223320	Ceramic 0.022μF
C114	1	1	1	1	DF15223310	Film 0.022μF ±5%
C301	1	1	1	1	EA47505030	Elect 4.7μF 50V
C302	1	1	1	1	DF15473310	Film 0.047μF ±5%
C303	1	1	1	1	DF15471550	Film 470pF ±5%
C304	1	1	1	1	EA47405030	Elect 0.47μF 50V
C305	1	1	1	1	EA47405030	Elect 0.47μF 50V
C306	1	1	1	1	DK16221300	Ceramic 220pF ±10%
C307	1	1	1	1	DK16221300	Ceramic 220pF ±10%
C308	1	1	1	1	EA22505030	Elect 2.2μF 50V
C309	1	1	1	1	EA22505030	Elect 2.2μF 50V
C310	1				DF15223300	Film 0.022μF ±5%
C310		1	1	1	DF15153300	Film 0.015μF ±5%
C310		1			DF15153310	Film 0.015μF ±5% (SR430L only)
C311	1				DF15223300	Film 0.022μF ±5%
C311		1	1	1	DF15153300	Film 0.015μF ±5%
C311		1			DF15153310	Film 0.015μF ±5%
C312	1	1	1	1	EA22601630	Elect 22μF 16V
C313		1	1		DF15822300	Film 8200pF ±5%
C314		1	1		DF15822300	Film 8200pF ±5%
C501	1	1	1	1	EX47300510	Elect 0.047μF 5.5V
C502	1	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C504	1	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C505	1	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C506	1	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C507	1	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C508	1	1	1	1	EA10505030	Elect 1μF 50V
C509	1	1	1	1	EA10505030	Elect 1μF 50V
C510	1	1	1	1	DD15270300	Ceramic 27pF ±5%
C511	1	1	1	1	DD15820300	Ceramic 82pF ±5%
C512	1	1	1	1	DK16102300	Ceramic 1000pF ±10%
C513	1	1	1	1	DK16222300	Ceramic 220pF ±10%
C514	1	1	1	1	DF15683310	Film 0.068μF ±5%
C515	1	1	1	1	EA22505030	Elect 2.2μF 50V
C516	1	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C517	1	1	1	1	EA10701630	Elect 100μF 16V
C520	1	1	1	1	EA47601630	Elect 47μF 16V
C701	1	1	1	1	EA22505030	Elect 2.2μF 50V
C702	1	1	1	1	EA22505030	Elect 2.2μF 50V
C703	1	1	1	1	DK16221300	Ceramic 220pF ±10%
C704	1	1	1	1	DK16221300	Ceramic 220pF ±10%
C705	1	1	1	1	DD11100370	Ceramic 10pF ±0.5pF
C706	1	1	1	1	DD11100370	Ceramic 10pF ±0.5pF
C707	1	1	1	1	DK16331300	Ceramic 330pF ±10%
C708	1	1	1	1	DK16331300	Ceramic 330pF ±10%
C709	1	1	1	1	DD15470370	Ceramic 47pF ±5%
C710	1	1	1	1	DD15470370	Ceramic 47pF ±5%
C711	1	1	1	1	EA47601630	Elect 47μF 16V
C712	1	1	1	1	EA47601630	Elect 47μF 16V
C713	1	1	1	1	EA10705030	Elect 100μF 50V
C714	1	1	1	1	EA10705030	Elect 100μF 50V
C715	1	1	1	1	EA10705030	Elect 100μF 50V
C716	1	1	1	1	EA10705030	Elect 100μF 50V
C717	1	1	1	1	DF16104500	Film 0.1μF ±10%
C718	1	1	1	1	DF16104500	Film 0.1μF ±10%
C719	1	1	1	1	EA10602530	Elect 10μF 25V
C720	1	1	1	1	EA10602530	Elect 10μF 25V
C721	1	1	1	1	DD10050370	Ceramic 5pF ±0.25pF
C722	1	1	1	1	DD10050370	Ceramic 5pF ±0.25pF
C801	1	1	1	1	EB68804540	Elect 6800μF 45V
C802	1	1	1	1	EB68804540	Elect 6800μF 45V
C804	1	1	1	1	EA10505030	Elect 1μF 50V
C805	1	1	1	1	EA10505030	Elect 1μF 50V
C806	1	1	1	1	EA10505030	Elect 1μF 50V
C807	1	1	1	1	EA10805030	Elect 1000μF 50V
C808	1	1	1	1	EA10605030	Elect 10μF 50V
C810	1	1	1	1	EA10602530	Elect 10μF 25V
C811	1	1	1	1	EA10701630	Elect 100μF 16V
C812	1	1	1	1	DK18103560	Ceramic 0.01μF
C813	1	1	1	1	EA22705030	Elect 270μF 50V
C814	1	1	1	1	EA10605030	Elect 10μF 50V
C815	1	1	1	1	EA10701630	Elect 100μF 16V
C816	1	1	1	1	EA10602530	Elect 10μF 25V
C817	1	1	1	1	DK18103560	Ceramic 0.01μF
C818		1			EA47605030	Elect 47μF 50V (SR430L only)
CA01	1	1	1	1	CT12000090	Trimming 16pF
CA01		1			CT12600020	Trimming 16pF x 2 (SR430L only)
CA03		1			DD15270370	Ceramic 27pF ±5% (SR430L only)
CA04	1	1	1	1	DK18223320	Ceramic 0.022μF
CA05	1	1	1	1	DD15180370	Ceramic 18pF ±5pF
CA06	1	1	1	1	DF15471550	Film 470pF ±5%
CA07		1			DD15680370	Ceramic 68pF ±5% (SR430L only)
CA08		1			DF15151550	Film 150pF ±5% (SR430L only)
CA09	1	1	1	1	DK18223320	Ceramic 0.022μF
CA10	1	1	1	1	EA10701630	Elect 100μF 16V

- (U) for U.S.A
- (N) for Europe
- (A) for Australia
- (F) for Japan

REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	N	A	F		
CA11	1	1	1	1	DD11100370	Ceramic 10pF ±0.5pF
CA12	1	1	1	1	EA10701630	Elect 100μF 16V
CA13	1	1	1	1	EA47505030	Elect 4.7μF 50V
CA14	1	1	1	1	DK18223320	Ceramic 0.022μF
CA15	1	1	1	1	DK18223320	Ceramic 0.022μF
CA16	1	1	1	1	DK18223320	Ceramic 0.022μF
CA17	1	1	1	1	EA10602530	Elect 10μF 25V
CA18	1	1	1	1	DD15470370	Ceramic 47pF ±5%
CA19	1	1	1	1	DD15101370	Ceramic 100pF ±5%
CA20	1	1	1	1	DK17103300	Ceramic 0.01μF ±20%
CA22	1	1	1	1	DK17103300	Ceramic 0.01μF ±20%
CA23	1	1	1	1	DK17103300	Ceramic 0.01μF ±20%
CA24	1	1	1	1	EA10505030	Elect 1μF 50V
CA25	1	1	1	1	DD15330370	Ceramic 33pF ±5%
CB01		1			EA47505030	Elect 4.7μF 50V (SR430L only)
CB02		1			EA47505030	Elect 4.7μF 50V (SR430L only)
CC01	1	1	1	1	EA10701630	Elect 100μF 16V
CN01	1	1	1	1	EA33601630	Elect 33μF 16V
CN02	1	1	1	1	EA22405030	Elect 0.22μF 50V
CN04	1	1	1	1	EA10405030	Elect 0.1μF 50V
						P100-RESISTORS (All Resistors are ±5% & ¼W)
R101	1	1	1	1	GD05101140	100Ω
R102	1	1	1	1	GD05331140	330Ω
R103	1	1	1	1	GD05102140	1kΩ
R104	1	1	1	1	GD05331140	330Ω
R105	1	1	1	1	GD05152140	1.5kΩ
R106	1	1	1	1	GD05471140	470Ω
R107	1	1	1	1	GD05472140	4.7kΩ
R108	1	1	1	1	GD05272140	2.7kΩ
R109	1	1	1	1	GD05223140	22kΩ
R110	1	1	1	1	RA01030800	Trimming 10kΩ (B)
R111	1	1	1	1	GD05103140	10kΩ
R112	1	1	1	1	GD05332140	3.3kΩ
R113	1	1	1	1	GD05472140	4.7kΩ
R114	1	1	1	1	GD05473140	47kΩ
R115	1	1	1	1	GD05331140	330Ω
R301	1	1	1	1	GD05393140	39kΩ
R302	1	1	1	1	RA05020800	Trimming 5kΩ (B)
R303	1	1	1	1	GD05153140	15kΩ
R304	1	1	1	1	GD05223140	22kΩ
R305	1	1	1	1	GD05223140	22kΩ
R306	1	1	1	1	RA05040800	Trimming 500kΩ (B)
R307	1	1	1	1	GD05473140	47kΩ
R308	1	1	1	1	GD05473140	47kΩ
R309	1	1	1	1	GD05332140	3.3kΩ
R310	1	1	1	1	GD05332140	3.3kΩ
R311	1	1	1	1	GD05473140	47kΩ
R312	1	1	1	1	GD05473140	47kΩ
R313	1	1	1	1	GD05104140	100kΩ
R314	1	1	1	1	GD05152140	1.5kΩ

REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	N	A	F		
R315	1	1	1	1	GD05103140	10kΩ
R316	1	1	1	1	GD05333140	33kΩ
R317	1	1	1	1	GD05334140	330kΩ
R318	1	1	1	1	GD05103140	10kΩ
R319	1	1	1	1	GD05153140	15kΩ
R320	1	1	1	1	GD05222140	2.2kΩ
R501	1	1	1	1	GD05224140	220kΩ
R502	1	1	1		GD05104140	100kΩ
R503	1	1	1	1	GD05473140	47kΩ
R504	1	1	1	1	GD05473140	47kΩ
R505	1	1	1	1	GD05152140	1.5kΩ
R506	1	1	1	1	GD05102140	1kΩ
R507	1	1	1	1	GD05103140	10kΩ
R508	1	1	1	1	GD05222140	2.2kΩ
R509	1	1	1	1	GD05151140	150Ω
R510	1	1	1	1	GD05153140	15kΩ
R511	1	1	1	1	GD05103140	10kΩ
R512	1	1	1	1	GD04103140	10kΩ
R525	1	1	1	1	GD05471140	470Ω
R526	1	1	1		GD05104140	100kΩ
R701	1	1	1	1	GD05102140	1kΩ
R702	1	1	1	1	GD05102140	1kΩ
R703	1	1	1	1	GD05104140	100kΩ
R704	1	1	1	1	GD05104140	100kΩ
R705	1	1	1	1	GD05183140	18kΩ
R706	1	1	1	1	GD05183140	18kΩ
⚠R707	1	1	1	1	GD05181140	180Ω
⚠R708	1	1	1	1	GD05561140	560Ω
R709	1	1	1	1	GD05821140	820Ω
R710	1	1	1	1	GD05821140	820Ω
R711	1	1	1	1	GD05104140	100kΩ
R712	1	1	1	1	GD05104140	100kΩ
R713	1	1	1	1	GD05222140	2.2kΩ
R714	1	1	1	1	GD05222140	2.2kΩ
R715	1	1	1	1	GD05102140	1kΩ
R716	1	1	1	1	GD05102140	1kΩ
⚠R717	1	1	1	1	GA05220010	22Ω 1W
⚠R718	1	1	1	1	GA05220010	22Ω 1W
⚠R719	1	1	1	1	GG05022120	2.2Ω ½W
⚠R720	1	1	1	1	GG05022120	2.2Ω ½W
R721	1	1	1	1	GD05153140	15kΩ
R722	1	1	1	1	GD05153140	15kΩ
R723	1	1	1	1	GD05104140	100kΩ
R724	1	1	1	1	GD05104140	100kΩ
R801		1			GA05330030	33Ω 3W (SR430L only)
⚠R802	1	1	1	1	RF05150120	15Ω ½W
⚠R804	1	1	1	1	RF05680140	68Ω
⚠R805	1	1	1	1	RF05221140	220Ω
⚠R806	1	1	1	1	GD05392140	3.9kΩ
⚠R807	1	1	1	1	GA05821010	820Ω 1W
R808	1	1	1	1	GD05393140	39kΩ
R809	1	1	1	1	GD05123140	12kΩ
RA01	1	1	1	1	GD05103140	10kΩ
RA02	1	1	1	1	GD05104140	100kΩ

- (U) for U.S.A
- (N) for Europe
- (A) for Australia
- (F) for Japan

REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	N	A	F		
RA03	1	1	1	1	GD05472140	4.7kΩ
RA04	1	1	1	1	GD05103140	10kΩ
RA05	1	1	1	1	GD05470140	47Ω
RA06	1	1	1	1	GD05561140	560Ω
RA07	1	1	1	1	GD05222140	2.2kΩ
RA08	1	1	1	1	GD05684140	680kΩ
RA09	1	1	1	1	GD05102140	1kΩ
RA10	1	1	1	1	GD05473140	47kΩ
RA11	1	1	1	1	GD05105140	1MΩ
RA12	1	1	1	1	GD05472140	4.7kΩ
RA13	1	1	1	1	GD05472140	4.7kΩ
RA14	1	1	1	1	GD05333140	33kΩ
RA15	1	1	1	1	GD05472140	4.7kΩ
RA16	1	1	1	1	GD05102140	1kΩ
RA17	1	1	1	1	GD05562140	5.6kΩ
RA18	1	1	1	1	RA01030800	Trimming 10kΩ (B)
RA19	1	1	1	1	GD05103140	10kΩ
RA20	1	1	1	1	GD05184140	180kΩ
RA21	1	1	1	1	GD05124140	120kΩ
RA22	1	1	1	1	GD05101140	100Ω
RB01		1			GD05473140	47kΩ (L)
RB02		1			GD05473140	47kΩ (L)
RB03		1			GD05104140	100kΩ (L)
RB04		1			GD05104140	100kΩ (L)
RB05		1			GD05472140	4.7kΩ (L)
RB06		1			GD05472140	4.7kΩ (L)
RC01	1	1	1	1	GD05153140	15kΩ
RC02	1	1	1	1	GD05222140	2.2kΩ
RC03	1	1	1	1	GD05103140	10kΩ
RC04	1	1	1	1	RF05470140	47Ω
RN02	1	1	1	1	GD05104140	100kΩ
RN03	1	1	1	1	GD05223140	22kΩ
RN04	1	1	1	1	GD05154140	150kΩ
RN05	1	1	1	1	GD05564140	560kΩ
RN06	1	1	1	1	GD05223140	22kΩ
RN07	1	1	1	1	GD05153140	15kΩ
RN08	1	1	1	1	GD05103140	10kΩ
RN11	1	1	1	1	GG05272120	2.7kΩ ½W
						P100-SEMICONDUCTORS
Q101	1	1	1	1	HC10006020	IC AN278
Q102	1	1	1	1	HC10035020	IC AN7273
Q103	1	1	1	1	HT327852D0	Transistor 2SC2785 (EF or FF)
Q104	1	1	1	1	HT327852D0	Transistor 2SC2785 (EF or FF)
Q301	1	1	1	1	HC10046020	IC AN7470
Q302	1	1	1	1	HT413022B0	Transistor 2SD1302 (S or T)
Q303	1	1	1	1	HT413022B0	Transistor 2SD1302 (S or T)
Q304	1	1	1	1	HT327852D0	Transistor 2SC2785 (EF or FF)
Q305	1	1	1	1	HT327852D0	Transistor 2SC2785 (FF or FF)

REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	N	A	F		
Q501	1	1	1	1	HC10072050	IC TD6104P
Q502	1	1	1	1	HC10070050	IC TC9147P
Q504	1	1	1	1	HF200300B0	F.E.T 2SK30A (Y1)
Q505	1	1	1	1	HT327852D0	Transistor 2SC2785 (EF or FF)
Q506	1	1	1	1	HT327852D0	Transistor 2SC2785 (EF or FF)
Q507	1	1	1	1	HT327852D0	Transistor 2SC2785 (EF or FF)
Q701	1	1	1	1	HC10124030	IC STK-4843
⚠Q801	1	1	1	1	HC10077030	IC L78M15
⚠Q802	1	1	1	1	HT205071Q0	Transistor 2SB507V (E)
⚠Q803	1	1	1	1	HC10031060	IC μPC78L05
QA01	1	1	1	1	HT308291C0	Transistor 2SC829 (C)
QA02	1	1	1	1	HT327852D0	Transistor 2SC2785 (EF or FF)
QA03	1	1	1	1	HT327852D0	Transistor 2SC2785 (EF or FF)
QA04	1	1	1	1	HT308291C0	Transistor 2SC829 (C)
QA05	1	1	1	1	HT308291C0	Transistor 2SC829 (C)
						(SR430L only)
QB01		1			HT409852B0	Transistor 2SD985 (L or K)
QB02		1			HT409852B0	Transistor 2SD985 (L or K)
QC01	1	1	1	1	HT111752D0	Transistor 2SA1175 (EF or FF)
QC02	1	1	1	1	HT111752D0	Transistor 2SA1175 (EF or FF)
QC03	1	1	1	1	HT327852D0	Transistor 2SC2785 (EF or FF)
QN01	1	1	1	1	HC10031020	IC AN6135
QN02	1	1	1	1	HT327852D0	Transistor 2SC2785 (EF or FF)
D101	1	1	1	1	HD20001000	Diode IS2473C or more
D102	1	1	1	1	HD20001000	Diode IS2473C or more
D103	1	1	1	1	HD20001000	Diode IS2473C or more
D301	1	1	1	1	HD30007020	Zener MA1091M
D501	1	1	1	1	HD20001000	Diode IS2473C or more
D502	1	1	1	1	HD20001000	Diode IS2473C or more
D503	1	1	1	1	HD20001000	Diode IS2473C or more
D504	1	1	1	1	HD20001000	Diode IS2473C or more
D505	1	1	1	1	HD20001000	Diode IS2473C or more
D506	1	1	1	1	HD20001000	Diode IS2473C or more
D507	1	1	1	1	HD20001000	Diode IS2473C or more
⚠D801	1	1	1	1	HD20008290	Diode S4VB
⚠D802	1	1	1	1	HD20018030	Diode DEA10B
⚠D805	1	1	1	1	HD30009020	Zener MA1110M
⚠D806	1	1	1	1	HD30009020	Zener MA1110M
⚠D807	1	1	1	1	HD20022030	Diode DSF10C
D808	1	1	1	1	HD20001000	Diode IS2473C or more

- (U) for U.S.A
- (N) for Europe
- (A) for Australia
- (F) for Japan

REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	N	A	F		
DA01	1	1	1	1	HD40003420	Varicap KV-1236Z
DA02	1	1	1	1	HD20001000	Diode IS2473C or more
DA03	1	1	1	1	HD20001000	Diode IS2473C or more
DA04	1	1	1	1	HD20001000	Diode IS2473C or more
DB01	1	1	1	1	HD20022030	Diode DSF10C
DB02	1	1	1	1	HD20022030	Diode DSF10C
DN01	1	1	1	1	HD20001000	Diode IS2373C or more
DN02	1	1	1	1	HD30007020	Zener MA1091M
DN05	1	1	1	1	HD30007020	Zener MA1091M
						P100-CERAMIC FILTERS, COIL & TRANSFORMERS
F101	1			1	FF11070590	Ceramic Filter SFE 10.7MHz
F101		1	1		FF11070570	Ceramic Filter SFE 10.7MHz
F102	1			1	FF11070530	Ceramic Filter SFE 10.7MHz
F102		1	1		FF11070570	Ceramic Filter SFE 10.7MHz
FA01	1	1	1	1	FG450302B0	Ceramic Filter SFZ 450B-3
FA02	1	1	1	1	FG450302B0	Ceramic Filter SFZ 450B-3
L101	1	1	1	1	LI20029020	IFT FM
L102		1	1		LS10295020	MPX Coil
L701	1	1	1	1	LL23905120	Coil, S.P.K Choke
L702	1	1	1	1	LL23905120	Coil, S.P.K Choke
LA01	1	1	1	1	LA10295110	Ant, Coil MW
LA02		1			LA10295020	Ant, Coil (SR430L only)
LA03	1	1	1	1	LO10013340	OSC Coil MW
LA04		1			LO10013350	OSC Coil (SR430L only)
LA05	1	1	1	1	LI10013210	IFT MW
						P100-MISCELLANEOUS
J101	1			1	YT01040290	Terminal (4P)
J101		1	1		YT01050040	Terminal (5P)
J102	1	1	1	1	YJ06002430	Jack, 3P Jumper Socket
J103	1	1	1	1	YJ06002440	Jack, 4P Jumper Socket
J104	1	1	1	1	YJ06002430	Jack, 3P Jumper Socket
J105	1	1	1	1	YJ06002430	Jack, 3P Jumper Socket
J501	1	1	1	1	YJ06002270	Jack, 8P Jumber Socket
J502	1	1	1	1	YJ06002270	Jack, 8P Jumper Socket
J503	1	1	1	1	YJ06002430	Jack, 3P Jumper Socket
J504	1	1	1	1	YJ06002440	Jack, 4P Jumper Socket
J505	1	1	1	1	YJ06002440	Jack, 4P Jumper Socket
J506	1	1	1	1	YJ06002440	Jack, 4P Jumper Socket
J701	1	1	1	1	YJ06002390	Jack, 5P Jumper Socket
J702	1	1	1	1	YJ06002430	Jack, 3P Jumper Socket
SB01		1			SZ06240020	Solenoid SW, MW/LW (L)
X501	1	1	1	1	XB115001L2	Crystal 7.2MHz
W701	1	1	1	1	YU03160260	Jumper Lead, (3P)

REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	N	A	F		
						P400-PHONE AMP. CIRCUIT BOARD (SR430/SR430L)
P400	1	1	1	1	YK132H1920	P.W. Board, Phono Amp
	1	1	1		ZZ132H1920	P.W. Board, Assembly
						P400-CAPACITORS
C401	1	1	1	1	EA33505030	Elect 3.3μF 50V
C402	1	1	1	1	EA33505031	Elect 3.3μF 50V
C403	1	1	1	1	DK16331300	Ceramic 330pF ±10%
C404	1	1	1	1	DK16331300	Ceramic 330pF ±10%
C405	1	1	1	1	EA47601630	Elect 47μF 16V
C406	1	1	1	1	EA47601630	Elect 47μF 16V
C407	1	1	1	1	DF15682310	Film 0.0068μF ±5%
C408	1	1	1	1	DF15682310	Film 0.0068μF ±5%
C409	1	1	1	1	DF15182310	Film 0.0018μF ±5%
C410	1	1	1	1	DF15182310	Film 0.0018μF ±5%
C411	1	1	1	1	EA10701630	Elect 100μF 16V
C412	1	1	1	1	EA10701630	Elect 100μF 16V
C413	1	1	1	1	DK16152300	Ceramic 1500pF ±10%
C414	1	1	1	1	DK16152300	Ceramic 1500pF ±10%
C415	1	1	1	1	EA10505030	Elect 0.1μF 50V
C416	1	1	1	1	EA10505030	Elect 0.1μF 50V
CV01	1	1	1	1	EA22802530	Elect 2200μF 25V
CV02	1	1	1	1	EA22505030	Elect 2.2μF 50V
CV03	1	1	1	1	EA33505030	Elect 3.3μF 50V
CV04	1	1	1	1	EA33505030	Elect 3.3μF 50V
CV05	1	1	1	1	EA33505030	Elect 3.3μF 50V
CV06	1	1	1	1	EA33505030	Elect 3.3μF 50V
CV07	1	1	1	1	EA33505030	Elect 3.3μF 50V
CV08	1	1	1	1	EA33505030	Elect 3.3μF 50V
CV09	1	1	1	1	EA10602530	Elect 10μF 25V
CV10	1	1	1	1	EA10602530	Elect 10μF 25V
CV11	1	1	1	1	EA10602530	Elect 10μF 25V
CV12	1	1	1	1	EA10602530	Elect 10μF 25V
CV13	1	1	1	1	DK17103300	Ceramic 0.01μF ±20%
CV14	1	1	1	1	DK17103300	Ceramic 0.01μF ±20%
CV15	1	1	1	1	DK17103300	Ceramic 0.01μF ±20%
CV16	1	1	1	1	DK17103300	Ceramic 0.01μF ±20%
CV17	1	1	1	1	DK17103300	Ceramic 0.01μF ±20%
						P400-RESISTORS (All Resistors are ±5% ¼W)
R401	1	1	1	1	GD05154140	150kΩ
R402	1	1	1	1	GD05154140	150kΩ
R403	1	1	1	1	GD05222140	2.2kΩ
R404	1	1	1	1	GD05222140	2.2kΩ
R405	1	1	1	1	GD05683140	68kΩ
R406	1	1	1	1	GD05683140	68kΩ
R407	1	1	1	1	GD05821140	820Ω
R408	1	1	1	1	GD05821140	820Ω
R409	1	1	1	1	GD05474140	470kΩ
R410	1	1	1	1	GD05474140	470kΩ

- (U) for U.S.A
- (N) for Europe
- (A) for Australia
- (F) for Japan

REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
R411	1	1	1	1	GD05393140	39kΩ
R412	1	1	1	1	GD05393140	39kΩ
R413	1	1	1	1	GD05471140	470Ω
R414	1	1	1	1	GD05471140	470Ω
R415	1	1	1	1	GD05221140	220Ω
R416	1	1	1	1	GD05221140	220Ω
R417	1	1	1	1	GD05224140	220kΩ
R418	1	1	1	1	GD05224140	220kΩ
RV01	1	1	1	1	GD05224140	220kΩ
RV02	1	1	1	1	GD05104140	100kΩ
RV03	1	1	1	1	GD05102140	1kΩ
RV04	1	1	1	1	GD05102140	1kΩ
RV05	1	1	1	1	GD05102141	1kΩ
RV06	1	1	1	1	GD05102140	1kΩ
RV09	1	1	1	1	GD05105140	1MΩ
RV10	1	1	1	1	GD05105140	1MΩ
RV11	1	1	1	1	GD05105140	1MΩ
RV12	1	1	1	1	GD05105140	1MΩ
RV13	1	1	1	1	GD05102140	1kΩ
RV14	1	1	1	1	GD05102140	1kΩ
RV15	1	1	1	1	GD05105140	1MΩ
RV16	1	1	1	1	GD05105140	1MΩ
RV17	1	1	1	1	GD05271140	270Ω
RV18	1	1	1	1	GD05271140	270Ω
RV21	1	1	1	1	GD05222140	2.2kΩ
RV22	1	1	1	1	GD05222140	2.2kΩ
RV23	1	1	1	1	GD05271140	270Ω
RV24	1	1	1	1	GD05271140	270Ω
RV25	1	1	1	1	GD05100140	10Ω
						P400-SEMICONDUCTORS
Q401	1	1	1	1	HC10013370	IC TL4558PB
QV01	1	1	1	1	HC10110030	IC LC7815-H
QV02	1	1	1	1	HC406603C0	IC LC4066B-H
QV03	1	1	1	1	HC406603C0	IC LC4066B-H
DV01	1	1	1	1	HD20001000	Diode IS2473C or more
						P400-MISCELLANEOUS
JV01	1				YT02040480	Terminal, Phono
JV01		1	1	1	YT02040470	Terminal, Phono
JV02	1				YT02040480	Terminal, Video
JV02		1	1	1	YT02040470	Terminal, Video
JV03	1				YT02040480	Terminal, Tape 2
JV03		1	1	1	YT02040470	Terminal, Tape 2
JV04	1	1	1	1	YJ06002450	Jack, 6P Jumper Lead Socket
JV05	1	1	1	1	YJ06002390	Jack, 5P Jumper Lead Socket
JV06	1	1	1	1	YJ06002430	Jack, 3P Jumper Lead Socket
WV01	1	1	1	1	YU03120260	Jumper Lead, Parallel Wire 3P
WV02	1	1	1	1	YU03120260	Jumper Lead, Parallel Wire 3P

REF. DESIG.	Q'TY U	N	A	F	PART NO.	DESCRIPTION
						P501-DISPLAY DRIVER CIRCUIT BOARD (SR430 only)
P501	1	1	1	1	YK132H1930	P.W. Board, Display Driver
	1	1	1		ZZ132H1930	P.W. Board, Assembly
						(SR430L only)
P501		1			YK132H1930	P.W. Board, Display Driver
		1			ZZ133H8930	P.W. Board, Assembly
						P501-CAPACITORS
C518	1	1	1	1	EA10701630	Elect 100μF 16V
C519	1	1	1	1	DK17103300	Ceramic 0.01μF ±20%
						P501-RESISTORS (All Resistors are ±5% & ¼W)
R513	1	1	1		GD05103140	10kΩ
R514	1	1	1		GD05473140	47kΩ
R515		1			GD05103140	10kΩ (SR430L only)
R516		1			GD05103140	10kΩ (SR430L only)
R517	1	1	1	1	GD05221140	220Ω
R518	1	1	1		GD05154140	150kΩ
R519	1	1	1		GD05153130	15kΩ
R520	1	1	1	1	GD05682140	6.8kΩ
R521		1			GD05123140	12kΩ (SR430L only)
R522	1	1	1	1	GD05123140	12kΩ
R523	1	1	1	1	GD05183140	18kΩ
R524	1	1	1	1	GD05472140	4.7kΩ
						P501-SEMICONDUCTORS
Q503	1	1	1	1	HC10071050	IC TD6301AP
Q508	1	1	1	1	HT327852D0	Transistor 2SC2785 (EF or FF)
Q509	1	1	1	1	HT327852D0	Transistor 2SC2785 (EF or FF)
						(SR430L only)
Q510		1			HT327852D0	Transistor 2SC2785 (EF or FF)
Q511		1			HT327852D0	Transistor 2SC2785 (EF or FF)
						P501-MISCELLANEOUS
G501	1	1	1	1	BW10103050	Resistor Compo. 10kΩ x 7
G502	1	1	1	1	BW10103050	Resistor Compo. 10kΩ x 7
G503	1	1	1	1	BW10103050	Resistor Compo. 10kΩ x 7
W501	1	1	1	1	YU07060260	Jumper Lead, (7P)
W502	1	1	1	1	YU06060260	Jumper Lead, (6P)
W503	1	1	1	1	YU06060260	Jumper Lead, (6P)
W504	1	1	1	1	YU06060260	Jumper Lead, (6P)
W505	1	1	1	1	YU06060260	Jumper Lead, (6P)
W506	1	1	1	1	YU04180260	Jumper Lead, (4P)
W507	1	1	1	1	YU03120260	Jumper Lead, (3P)
W508	1	1	1	1	YU03140260	Jumper Lead, (3P)
						P502-DISPLAY CIRCUIT BOARD (SR430 only)
P502	1	1	1	1	YK132H1940	P.W. Board, Display
	1	1	1		ZZ132H1940	P.W. Board, Assembly
V501	1	1	1	1	HQ30903060	Display Unit FIP7B8AS

- (U) for U.S.A
- (N) for Europe
- (A) for Australia
- (F) for Japan

REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	N	A	F		
						(SR430L only)
P502		1			YK132H1940	P.W. Board, Display
		1			ZZ133H8940	P.W. Board, Assembly
						P502-MISCELLANEOUS
V501		1			HQ31002060	Display unit FIP7A8AS FM.MW.LW
						PS00-SPEAKER TERMINAL CIRCUIT BOARD
PW00	1	1	1	1	YK132H1950	P.W. Board, Speaker Terminal
	1	1	1		ZZ132H1950	P.W. Board, Assembly
						PW00-MISCELLANEOUS
JW02	1	1	1	1	YT03080030	Terminal, S.P.K
WW01	1	1	1	1	YU05180260	Jumper Lead, (5P)
						PN00-SPEAKER SWITCH CIRCUIT BOARD
PN00	1	1	1	1	YK132H1960	P.W. Board, Speaker Switch
	1	1	1		ZZ132H1960	P.W. Board, Assembly
						PN00-MISCELLANEOUS
SN01	1	1	1	1	SP02020690	Push Switch, Speaker
						PW50-HEAD PHONE CIRCUIT BOARD
PW50	1	1	1	1	YK132H1970	P.W. Board, Head Phone
	1	1	1		ZZ132H1970	P.W. Board, Assembly
						PW50-MISCELLANEOUS
JW50	1	1	1	1	YJ01001790	Jack, Head Phone
⚠RW50	1	1	1	1	GA05331010	Resistor, 330Ω 1W
⚠RW51	1	1	1	1	GA05331010	Resistor, 330Ω 1W
WW50	1	1	1	1	YU03120260	Jumper Lead, (3P)
						PC00-SCAN STEP CIRCUIT BOARD (SR430 only)
PC00	1	1	1		YK132H1980	P.W. Board, Scan Step
	1	1	1		ZZ132H1980	P.W. Board, Assembly
						PC00-MISCELLANEOUS
SC01	1	1	1		S-S02020640	Slide Switch
WC01	1	1	1		YU04200260	Jumper lead, (4P)
						PU00-POWER SWITCH CIRCUIT BOARD
PU00	1	1	1	1	YK132H1990	P.W. Board, Power Switch
	1	1	1		ZZ132H1990	P.W. Board, Assembly
						PU00-CAPACITORS
⚠G001	1	1	1		DK17472840	Ceramic Cap. 4700pF
G001				1	DK18103850	Ceramic Cap. 0.01µF
						PU00-MISCELLANEOUS
⚠S001	1	1	1	1	SP01010650	Push Switch, Power

REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	N	A	F		
						PT00-CONTROL SWITCH CIRCUIT BOARD (SR430 only)
PT00	1	1	1	1	YN132H2410	P.W. Board, Control Switch
	1	1	1		ZZ132H2410	P.W. Board, Assembly
						(SR430L only)
PT00		1			YN132H2410	P.W. Board, Control Switch
		1			ZZ133H8410	P.W. Board, Assembly
						PT00-CAPACITORS
CS01	1	1	1	1	DF15473310	Film 0.047µF ±5%
CS02	1	1	1	1	DF15473310	Film 0.047µF ±5%
CS03	1	1	1	1	DK16561300	Ceramic 560pF ±10%
CS04	1	1	1	1	DK16561300	Ceramic 560pF ±10%
CS05	1	1	1	1	DF15273310	Film 0.027µF ±5%
CS06	1	1	1	1	DF15273310	Film 0.027µF ±5%
CS07	1	1	1	1	EA22505030	Elect 2.2µF 50V
CS08	1	1	1	1	EA22505030	Elect 2.2µF 50V
CX01	1	1	1	1	EA10602530	Elect 10µF 25V
						PT00-RESISTORS **(All Resistors are ±5% & ¼W)**
RS01	1	1	1	1	GD05103140	10kΩ
RS02	1	1	1	1	GD05103140	10kΩ
RS03	1	1	1	1	GD05123140	12kΩ
RS04	1	1	1	1	GD05123140	12kΩ
RS05	1	1	1	1	GD05105140	1MΩ
RS06	1	1	1	1	GD05105140	1MΩ
RS07	1	1	1	1	GD05222140	2.2kΩ
RS08	1	1	1	1	GD05222140	2.2kΩ
RS09	1	1	1	1	RS01040260	Variable 100kΩ, Main
RS10	1	1	1	1	RX02040050	Variable 200kΩ, Balance
RT01	1	1	1	1	GD05272140	2.7kΩ
RT02	1	1	1	1	GD05272140	2.7kΩ
RT03	1	1	1	1	GD05104140	100kΩ
RT04	1	1	1	1	GD05272140	2.7kΩ
RT05	1	1	1	1	GD05391140	390Ω
RT06	1	1	1	1	GD05391140	390Ω
RX01	1	1	1	1	GD05103140	10kΩ
						PT00-SEMICONDUCTORS
DT01	1	1	1	1	HI10023080	L.E.D. SEL-1410E
DT02	1	1	1	1	HI10023080	L.E.D. SEL-1410E
DT03	1	1	1	1	HI10023080	L.E.D. SEL-1410E
DT04	1	1	1	1	HI10023080	L.E.D. SEL-1410E
DT05	1	1	1	1	HI10023080	L.E.D. SEL-1410E
DT06	1	1	1	1	HI10024080	L.E.D. SEL-1210S
DT07	1	1	1	1	HI10023080	L.E.D. SEL-1210S
DT08	1	1	1	1	HI10024080	L.E.D. SEL-1210S
DT09	1	1	1	1	HI10024080	L.E.D. SEL-1210S
DT10	1	1	1	1	HI10024080	L.E.D. SEL-1210S
DT11	1	1	1	1	HI10024080	L.E.D. SEL-1210S
DT12	1	1	1	1	HI10024080	L.E.D. SEL-1210S
DT13	1	1	1	1	HI10024080	L.E.D. SEL-1210S
DT14	1	1	1	1	HI10024080	L.E.D. SEL-1210S
DX01	1	1	1	1	HI10037030	L.E.D. SLP-981C
DX02	1	1	1	1	HI10037030	L.E.D. SLP-981C
DX03	1	1	1	1	HI10037030	L.E.D. SLP-981C
DX04	1	1	1	1	HI10037030	L.E.D. SLP-981C
DX05	1	1	1	1	HI10038030	L.E.D. SLP-281F
DX06	1	1	1	1	HI10038030	L.E.D. SLP-281F
QX01	1	1	1	1	HC10098030	IC LB1413

- (U) for U.S.A
- (N) for Europe
- (A) for Australia
- (F) for Japan

REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	N	A	F		
						PT00-MISCELLANEOUS
SS01	1	1	1	1	SP03010050	Push Switch, Mono/Stereo, Auto/Manual
SS02	1	1	1	1	SP02020670	Push Switch, Loudness
SS03	1	1	1	1	SP02011040	Push Switch, Low Filter
ST01	1	1	1	1	SP01010570	Push Switch, Function Key
ST02	1	1	1	1	SP01010570	Push Switch, Function Key
ST03	1	1	1	1	SP01010570	Push Switch, Function Key
ST04	1	1	1	1	SP01010570	Push Switch, Function Key
ST05	1	1	1	1	SP01010570	Push Switch, Function Key
ST06	1	1	1	1	SP01010570	Push Switch, Preset 1
ST07	1	1	1	1	SP01010570	Push Switch, Preset 2
ST08	1	1	1	1	SP01010570	Push Switch, Preset 3
ST09	1	1	1	1	SP01010570	Push Switch, Preset 4
ST10	1	1	1	1	SP01010570	Push Switch, Preset 5
ST11	1	1	1	1	SP01010570	Push Switch, Preset 6
ST12	1	1	1	1	SP01010570	Push Switch, Preset 7
ST13	1	1	1	1	SP01010570	Push Switch, Preset 8
ST14	1	1	1	1	SP01010570	Push Switch, Memory Key
ST15	1	1	1	1	SP01010570	Push Switch, FM key
ST16		1			SP01010570	Push Switch, MW Key (SR430L only)
ST17	1	1	1	1	SP01010570	Push Switch, AM Key
ST18	1	1	1	1	SP01010570	Push Switch, Up Key
ST19	1	1	1	1	SP01010570	Push Switch, Down Key
WS01	1	1	1	1	YU06100260	Jumper Lead, (6P)
WS02	1	1	1	1	YU05120260	Jumper Lead, (5P)
WS03	1	1	1	1	YU03100260	Jumper Lead, (3P)
WS04	1	1	1	1	YU08120260	Jumper Lead, (8P)
WS05	1	1	1	1	YU08120260	Jumper Lead, (8P)
WS06	1	1	1	1	YU03180260	Jumper Lead, (3P)
WS07	1	1	1	1	YU04120260	Jumper Lead, (4P)
WS08	1	1	1	1	YU04120260	Jumper Lead, (4P)
						RE01-TONE VOLUME CIRCUIT BOARD (SR430/SR430L)
PE01	1	1	1	1	YN132H2420	P.W. Board, Tone Volume
	1	1	1		ZZ132H2420	P.W. Board, Assembly
						PE01-CAPACITORS
CE07	1	1	1	1	DF15472310	Film 0.0047μF ±5%
CE08	1	1	1	1	DF15472310	Film 0.0047μF ±5%
CE09	1	1	1	1	DF15273310	Film 0.027μF ±5%
CE10	1	1	1	1	DF15273310	Film 0.027μF ±5%

REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	N	A	F		
						PE01-RESISTORS (All Resistors are ±5% & ¼W)
RE03	1	1	1	1	GD05272140	2.7kΩ
RE04	1	1	1	1	GD05272140	2.7kΩ
RE07	1	1	1	1	GD05681140	680Ω
RE08	1	1	1	1	GD05681140	680Ω
RE11	1	1	1	1	GD05272140	2.7kΩ
RE12	1	1	1	1	GD05272140	2.7kΩ
RE15	1	1	1	1	RS01040250	Variable 100kΩ (Bass)
RE16	1	1	1	1	RS01040250	Variable 100kΩ (Treble)
						PE02-TONE CIRCUIT BOARD (SR430/SR430L)
PE02	1	1	1	1	YN132H2430	P.W. Board, Tone Circuit
	1	1	1		ZZ132H2430	P.W. Board, Assembly
						PE02-CAPACITORS
CE01	1	1	1	1	DF15183310	Film 0.018μF ±5%
CE02	1	1	1	1	DF15183310	Film 0.018μF ±5%
CE03	1	1	1	1	EA10405030	Elect 0.1μF 50V
CE04	1	1	1	1	EA10405030	Elect 0.1μF 50V
						PE02-RESISTORS (All Resistors are ±5% & ¼W)
RE01	1	1	1	1	GD05153140	15kΩ
RE02	1	1	1	1	GD05153140	15kΩ
RE05	1	1	1	1	GD05561140	560Ω
RE06	1	1	1	1	GD05561140	560Ω
RE09	1	1	1	1	GD05104140	100kΩ
RE10	1	1	1	1	GD05104140	100kΩ
						PE02-MISCELLANEOUS
WE01	1	1	1	1	YU05100260	Jumper Lead, (5P)
						PE03-TONE JUMPER CIRCUIT BOARD (SR430/SR430L)
PE03	1	1	1	1	YN132H2440	P.W. Board, Tone Jumper

(W01-99)	Assembly and Wiring
(T01-99)	Adjustment
(X01-00)	Correction

NOTE ON SAFETY:
Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠ . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

12. TECHNICAL SPECIFICATIONS

MODEL SR430/SR430L

AUDIO SECTION

POWER OUTPUT PER CHANNEL	
8 OHMS DIN	**32 W**
8 OHMS RMS	**30 W**
TOTAL HARMONIC DISTORTION AT RMS 8 OHMS	**0.05%**
DAMPING FACTOR 8 OHMS (1 kHz)	**30**

Frequency Response	
Phono (RIAA)	±1.5 dB (20 Hz ~ 20 kHz)
Aux (±2 dB)	16 Hz ~ 30 kHz
Signal-to-Noise Ratio	
Phono (7.75 mV, 15.5V output)	80 dB
Aux (Vol. Max., 15.5 V output)	85 dB
Input Terminals	
Phono: Input Sensitivity/Impedance	2.8 mV/47 kohms
Aux: Input Sensitivity/Impedance	160 mV/33 kohms

FM TUNER SECTION

Frequency Range	87.5 ~ 108 MHz
Usable Sensitivity	
DIN Mono (S/N 26 dB, 300 ohms)	1.8 μV
DIN Stereo (S/N 46 dB, 300 ohms)	40 μV
Alternate Channel Selectivity, 98 MHz	60 dB
Signal-to-Noise Ratio, 98 MHz	
Unweighted: Mono	75 dB
Unweighted: Stereo	65 dB
Weighted: Mono	78 dB
Weighted: Stereo	68 dB

MW TUNER SECTION

Frequency Range	525 ~ 1605 kHz
Usable Sensitivity (20 dB S/N 30% Mod., 1 MHz)	30 μV/450 μV/m
Selectivity (9 kHz/18 kHz)	30 dB/40 dB

LW TUNER SECTION

Frequency Range	150 ~ 350 kHz
Usable Sensitivity (20 dB S/N 30% 250 kHz)	100 μV/1500 μV/m

GENERAL

Power Requirements	
(N.T) version (SR430L)	220/240 V AC, 50/60 Hz
(N.T.A) version (SR430)	110/120/220/240 V AC, 50/60 Hz
Power Consumption at Rated Output, Both Channels Operating	140 W
Dimensions	
Panel Width	416 mm
Panel Height	100 mm
Depth	194 mm
Weight	
Unit alone	4.5 kg

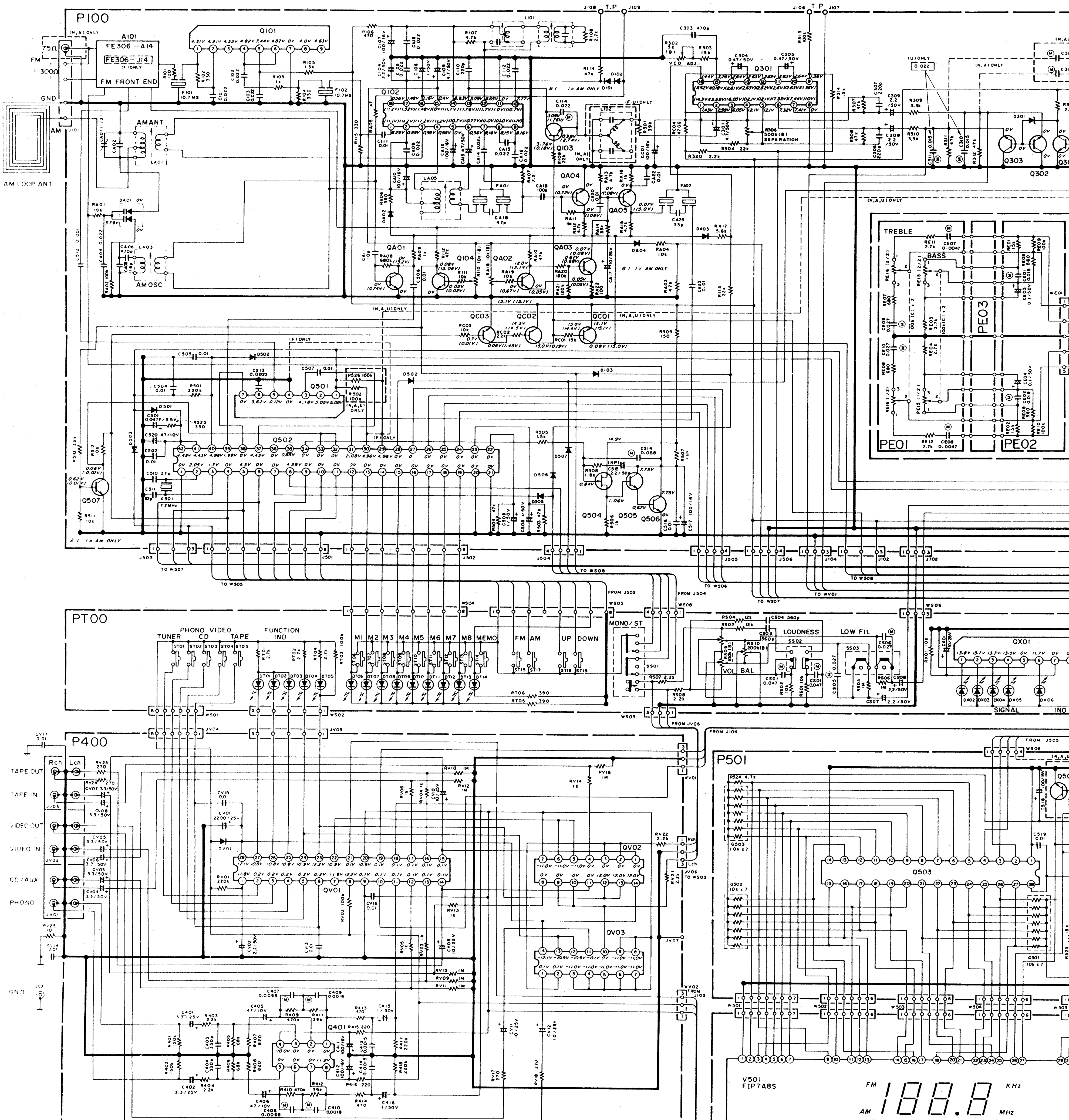
* All powers at 1 kHz

Specifications and appearance are subject to change for modification without notice.

MEMORANDUM

13. SCHEMATIC DIAGRAM

Q101	Q102	Q103, Q104, Q304, Q305 Q505 ~ Q507 QA02, QA03, QC03, QN02	Q301	Q302, Q303	QA01 QA04, QA05	Q508, Q509	QC01, QC02	Q501	Q502	Q503	Q504	Q401	QX01	QV01
HC10006020	HC10035020	HT327852D0	HC10046020	HT413022B0	HT308291C0	HT327852D0	HT111752D0	HC10072050	HC10070050	HC10071050	HF20030080	HC10013370	HC10098030	HC10110030
AN278	AN7273	2SC2785 (EF or FF)	AN7470	2SD1302	2SC829(C)	2SC2785 (EF or FF) (N, A, U) ONLY	2SA1175 (EF or FF)	TD6104AP	TC9147P	TD6301AP	2SK30Y	TL-4558P	LB1413	LC7815H



P100
FM
75Ω
300Ω
GND
AM
AM LOOP ANT
A101
FE306 – A14
FE306 – J14
FM FRONT END
Q101
Q102
Q103
Q104
Q301
Q302
Q303
L101
J108 T.P J109
J106 T.P J107
VCO ADJ.
SEPARATION
AMANT
AMOSC
QA01
QA02
QA03
QA04
QA05
QC01
QC02
QC03
TREBLE
BASS
PE01
PE02
PE03
Q501
Q502
Q503
Q504
Q505
Q506
Q507
X501 7.2MHz
TO W507
TO W505
TO W508
TO W506
TO W501
PT00
TUNER
PHONO
VIDEO
CD
TAPE
FUNCTION IND
M1 M2 M3 M4 M5 M6 M7 M8 MEMO
FM AM
UP DOWN
MONO / ST
LOUDNESS
LOW FIL
VOL
BAL
QX01
SIGNAL
P400
Rch Lch
TAPE OUT
TAPE IN
VIDEO OUT
VIDEO IN
CD / AUX
PHONO
GND
QV01
QV02
QV03
Q401
P501
V501
FIP7A8S
FM
AM
188.8
KHz
MHz

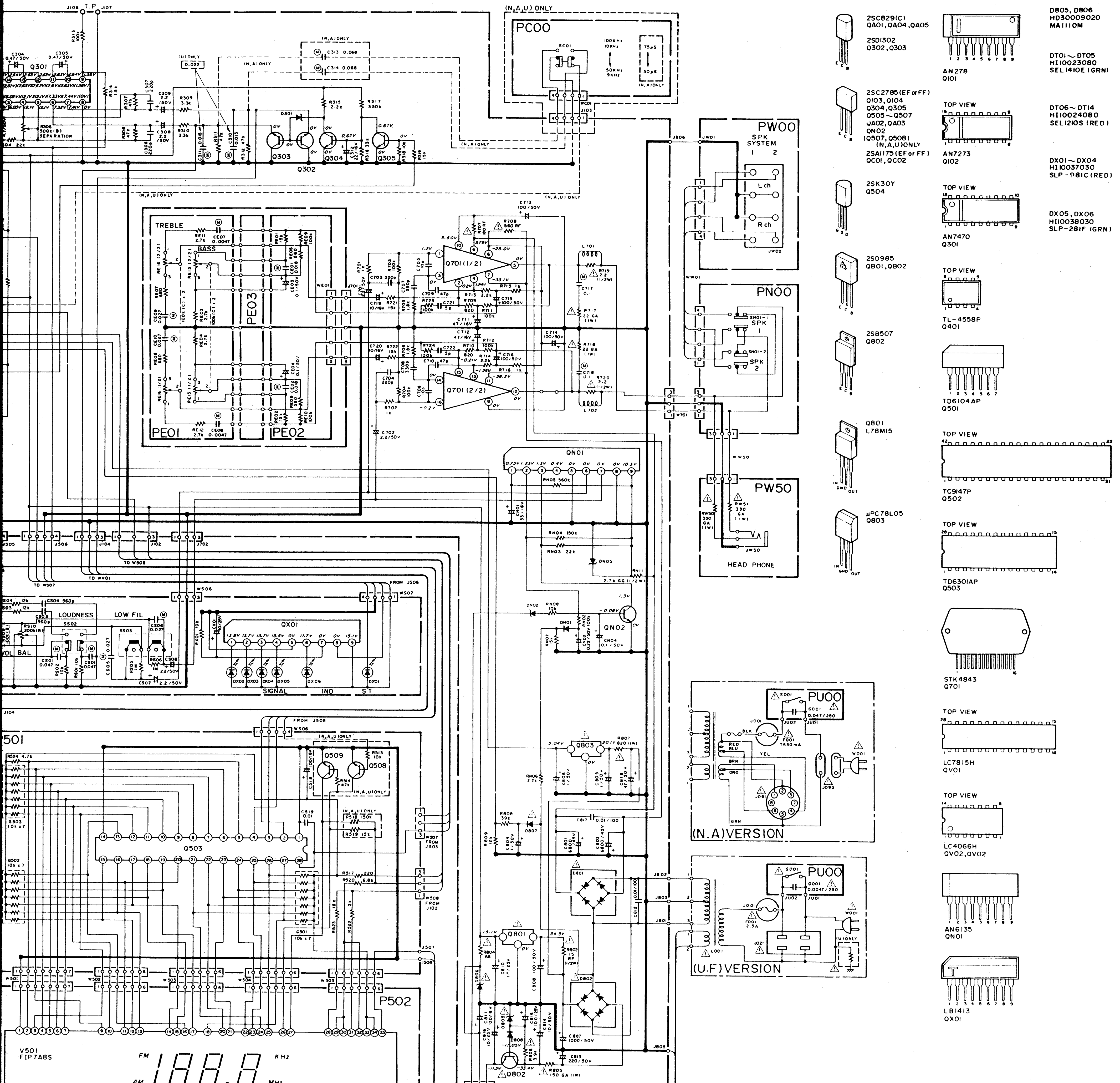
Components and wiring are subject to change for modification without notice.

NOTE ON SAFETY:

Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠ . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

MODEL SR430

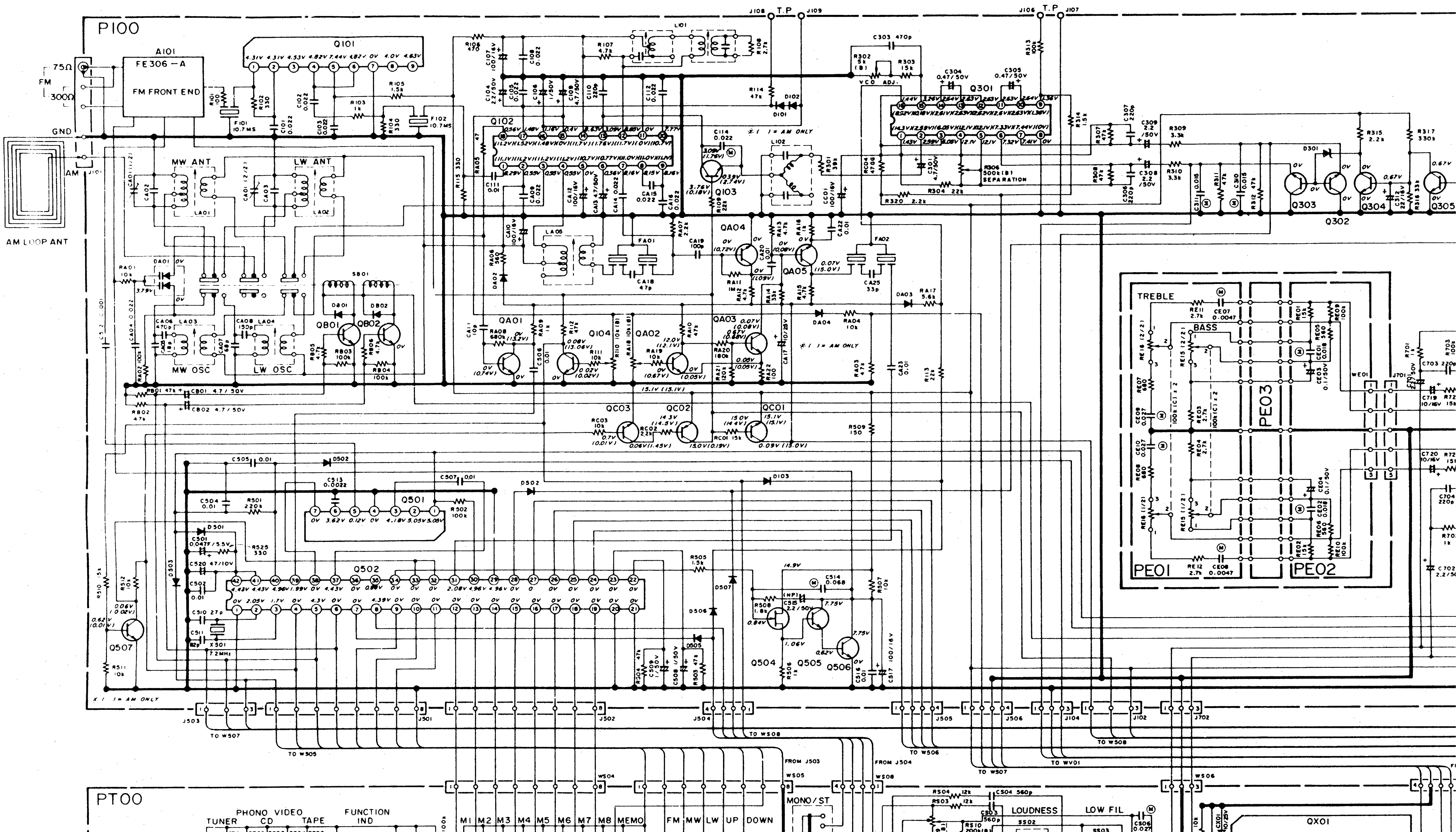
0050 P	Q503 HC10071050 TD6301AP	Q504 HF20030080 2SK30Y	Q401 HC10013370 TL-4558P	QX01 HC10098030 LB1413	QV01 HC10110030 LC7815H	QV02,QV03 HC406603C0 LC4066H	Q701 HC10124030 STK4843	QN01 HC10031020 AN6135	Q801 HC10077030 L78M15	Q802 HT20507100 2SB507	Q803 HC10031060 µPC78L05	D101~D103, DA02~DA04 DN01, DN06, Q808 D501~D507, DV01 HD20001000 1S2473 ·····etc·····	D301 DN02, DN05 HD30007020 MA1091M	DA01 HD40003420 KV1236Z	DB01, DB02 D807 HD20022030 DSF10C	D801 HD20008290 S4VB	D802 HD20018030 BA10B


J106 T.P J107
Q301
(U) ONLY 0.022
(N,A) ONLY
C313 0.068
C314 0.068
Q302
Q303
Q304
Q305
(N,A,U) ONLY
PC00
SC01
100KHz 10KHz
50KHz 9KHz
75µS
50µS
PW00
SPK SYSTEM
L ch
R ch
TREBLE
BASS
PE01
PE02
PE03
Q701 (1/2)
Q701 (2/2)
L701
L702
PN00
SPK 1
SPK 2
QN01
QN02
PW50
HEAD PHONE
J505 J506 J104 J102 J702
TO W508
TO WV01
TO W507
LOUDNESS
LOW FIL
VOL BAL
QX01
SIGNAL IND ST
501
Q509
Q508
(N,A,U) ONLY
Q503
P502
V501
FIP7A8S
FM
AM
188.8
KHz
MHz
Q803
Q801
Q802
D801
D802
PU00
(N.A) VERSION
(U.F) VERSION
J105 TO WV02
2SC829(C)
QA01, QA04, QA05
2SD1302
Q302, Q303
2SC2785 (EF or FF)
Q103, Q104
Q304, Q305
Q505~Q507
QA02, QA03
QN02
(Q507, Q508)
(N,A,U) ONLY
2SA1175 (EF or FF)
QC01, QC02
2SK30Y
Q504
2SD985
QB01, QB02
2SB507
Q802
Q801
L78M15
µPC78L05
Q803
AN278
Q101
TOP VIEW
AN7273
Q102
AN7470
Q301
TL-4558P
Q401
TD6104AP
Q501
TC9147P
Q502
TD6301AP
Q503
STK4843
Q701
LC7815H
QV01
LC4066H
QV02, QV02
AN6135
QN01
LB1413
QX01
D805, D806
HD30009020
MA1110M
DT01~DT05
HI10023080
SEL1410E (GRN)
DT06~DT14
HI10024080
SEL1210S (RED)
DX01~DX04
HI10037030
SLP-981C (RED)
DX05, DX06
HI10038030
SLP-281F (GRN)

dification without notice.

inal parts
mbol ⚠.
original
k hazard.

Q101	HC10006020	AN278
Q102	HC10035020	AN7273
Q103,Q104,Q304,Q305 Q505～Q511 QA02,QA03,QC03,QN02	HT32785200	2SC2785 (EF or FF)
Q301	HC10046020	AN7470
Q302,Q303	HT41302280	2SD1302
QA01 QA04,QA05	HT30829IC0	2SC829 (C)
QB01,QB02	HT40985280	2SD985
QC01,QC02	HT11175200	2SA1175 (EF or FF)
Q501	HC10072050	TD6104AP
Q502	HC10070050	TC9147P
Q503	HC10071050	TD6301AP
Q504	HF20030080	2SK30Y
Q401	HC10013370	TL-4558P
QX01	HC10098030	LB1413
QV01	HC10110030	LC7815H
QV02,QV03	HC406603C0	LC4066H

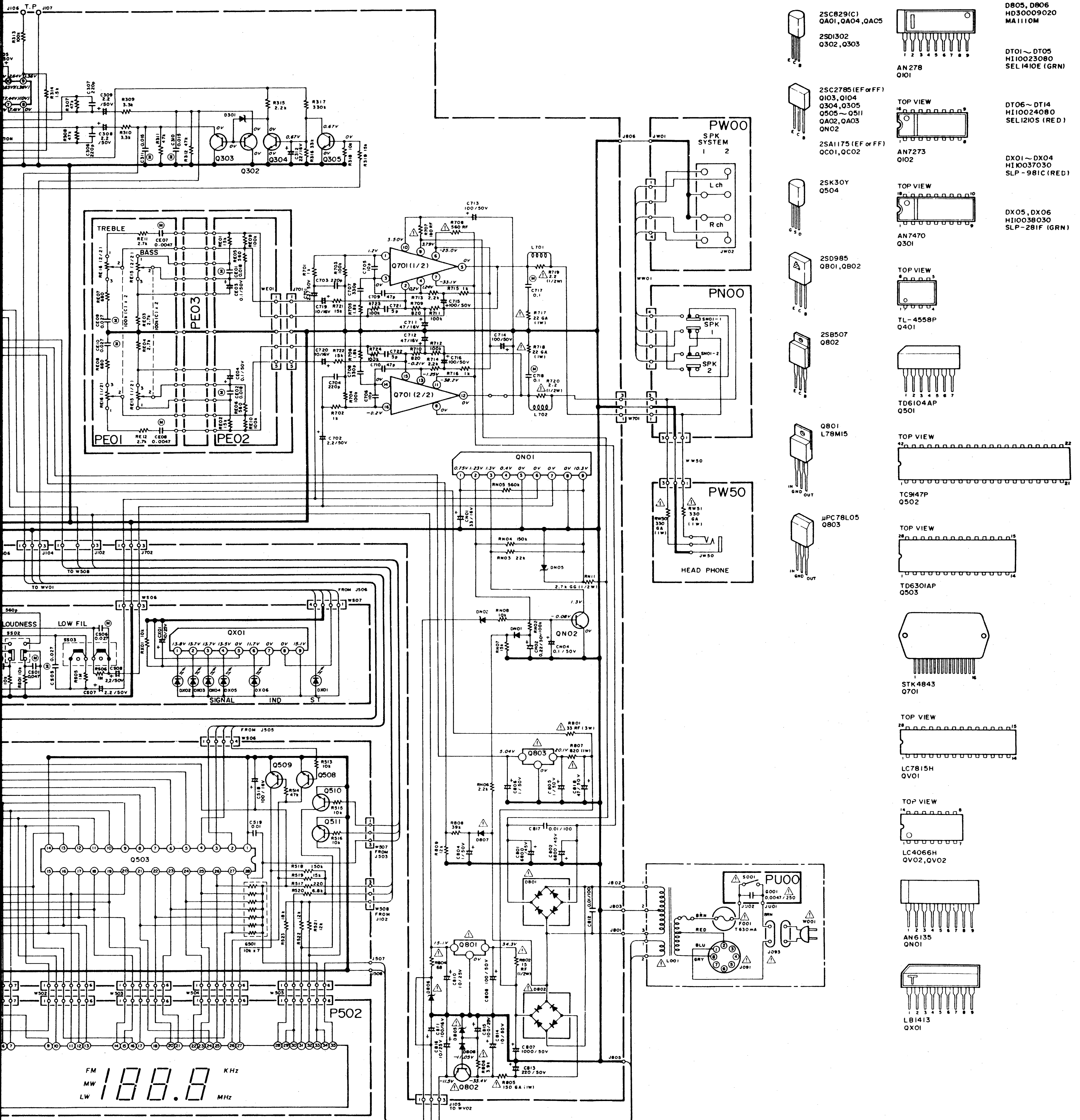

P100
A101
FE306-A
FM FRONT END
75Ω
FM
300Ω
GND
AM
AM LOOP ANT
MW ANT
LW ANT
MW OSC
LW OSC
Q101
Q102
Q103
Q104
Q301
Q302
Q303
Q304
Q305
QA01
QA02
QA03
QA04
QA05
QB01
QB02
QC01
QC02
QC03
Q501
Q502
Q503
Q504
Q505
Q506
Q507
Q509
Q508
Q510
Q511
T.P
J108
J109
J106
J107
VCO ADJ.
SEPARATION
TREBLE
BASS
PE01
PE02
PE03
PT00
TUNER
PHONO
CD
VIDEO
TAPE
FUNCTION IND
M1
M2
M3
M4
M5
M6
M7
M8
MEMO
FM
MW
LW
UP
DOWN
MONO/ST
VOL
BAL
LOUDNESS
LOW FIL
QX01
SIGNAL
IND
ST
P400
Rch
Lch
TAPE OUT
TAPE IN
VIDEO OUT
VIDEO IN
CD/AUX
PHONO
GND
QV01
QV02
QV03
Q401
P501
V501
FIP7A8S
FM
MW
LW
188.8
KHz
MHz
P5
46

Components and wirin

NOTE ON SAFETY:

Symbol ⚠ Fire or elect
should be used to repl
Any other componen
type), may increase ri

	Q504	Q401	QX01	QV01	QV02,QV03	Q701	QN01	Q801	Q802	Q803	D101~D103, DA02~DA04 DN01, DN06, D808 D501~D507, DV01	D301 DN02, DN05	DA01	DB01, DB02 D807	D801	D802
1050	HF200300B0	HC10013370	HC10098030	HC10110030	HC406603C0	HC10124030	HC10031020	HC10077030	HT20507100	HC10031060	HD20001000	HD30007020	HD40003420	HD20022030	HD20008290	HD20018030
AP	2SK30Y	TL-4558P	LB1413	LC7815H	LC4066H	STK4843	AN6135	L78M15	2SB507	µPC78L05	1S2473 ····· etc ·····	MA1091M	KV1236Z	DSF10C	S4VB	BA10B



J106
T.P
J107
R313 100k
Q303
Q304
Q305
Q302
R309 3.3k
R310 3.3k
R315 2.2k
R317 330k
R319 15k
TREBLE
BASS
PE01
PE02
PE03
WE01
J701
Q701 (1/2)
Q701 (2/2)
C713 100/50V
R706 560 RF
L701
L702
R719 2.2 (1/2W)
R717 22 GA (1W)
R718 22 GA (1W)
R720 2.2 (1/2W)
C702 2.2/50V
J806
JW01
PW00
SPK SYSTEM
1 2
L ch
R ch
JW02
WW01
PN00
SN01-1
SPK 1
SN01-2
SPK 2
W701
WW50
PW50
RW51 330 GA (1W)
RW50 330 GA (1W)
JW50
HEAD PHONE
QN01
RN05 560k
RN04 150k
RN03 22k
DN05
RN11 2.7k GG (1/2W)
DN02
RN08 10k
DN01
QN02
CN04 0.1/50V
J104
J102
J702
TO W508
TO WV01
W506
FROM J506
W507
LOUDNESS
LOW FIL
SS02
SS03
QX01
DX02
DX03
DX04
DX05
DX06
DX01
SIGNAL
IND
ST
FROM J505
W506
Q509
Q508
Q510
Q511
R513 10k
R515 10k
R516 10k
C519 0.01
Q503
R518 150k
R519 15k
R517 220
R520 6.8k
W507 FROM J505
W508 FROM J102
J507
J508
W502
W503
W504
W505
P502
FM
MW
LW
KHz
MHz
R801 33 RF (3W)
R807 820 (1W)
Q803
R806 2.2k
C817 0.01/100
R808 39k
D807
D801
D802
J802
J803
J801
J805
Q801
R804 68
R802 15 RF (1/2W)
D806
D808
C807 1000/50V
C813 220/50V
R805 150 GA (1W)
Q802
J105 TO WV02
S001
PU00
C001 0.0047/250
J002
J001
BRN
RED
BLU
GRY
F001 T630mA
W001
J093
J091
L001
2SC829(C)
QA01, QA04, QAC5
2SD1302
Q302, Q303
2SC2785 (E or F)
Q103, Q104
Q304, Q305
Q505~Q511
QA02, QA03
QN02
2SA1175 (E or FF)
QC01, QC02
2SK30Y
Q504
2SD985
QB01, QB02
2SB507
Q802
Q801
L78M15
µPC78L05
Q803
IN GND OUT
E C B
G S D
AN278
Q101
D805, D806
HD30009020
MA1110M
DT01~DT05
HI10023080
SEL1410E (GRN)
TOP VIEW
AN7273
Q102
DT06~DT14
HI10024080
SEL1210S (RED)
AN7470
Q301
DX01~DX04
HI10037030
SLP-981C (RED)
DX05, DX06
HI10038030
SLP-281F (GRN)
TL-4558P
Q401
TD6104AP
Q501
TC9147P
Q502
TD6301AP
Q503
STK4843
Q701
LC7815H
QV01
LC4066H
QV02, QV02
AN6135
QN01
LB1413
QX01

Components and wiring are subject to change for modification without notice.

NOTE ON SAFETY:

Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.